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# MacUser

DECEMBER 1989

# 2000

# BEST

# MACINTOSH PRODUCTS



# Then again, some same thing about



## Nobell Chem Revenue Potential Product Portfolio Breakout

	1989	1990	1991	1992
<b>High Growth Markets</b>				
Medical Applications	15	25	40	60
Industrial Applications	30	39	46	51
<b>Total</b>	<b>45</b>	<b>64</b>	<b>86</b>	<b>111</b>
% of total	55%	63%	68%	72%
<b>Mature Markets</b>				
Defense Applications	36	38	40	42
% of total	45%	37%	32%	28%
<b>Total Revenue</b>	<b>81</b>	<b>102</b>	<b>126</b>	<b>153</b>



N o b e l l C h e m

Report to the Board of Trustees

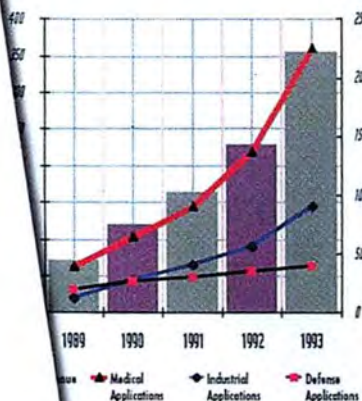
During the past twelve months, the Nobell Chem Corporation pulled far ahead of the competition, through the diverse and strategic marketing of its Nitro Glycerin compound.

Nitro Glycerin, which was discovered in 1847 by Ascanio Sobrero and commercially developed by Alfred Nobel (Nobel Prize fame), has long been used in the manufacturing process of dynamite.

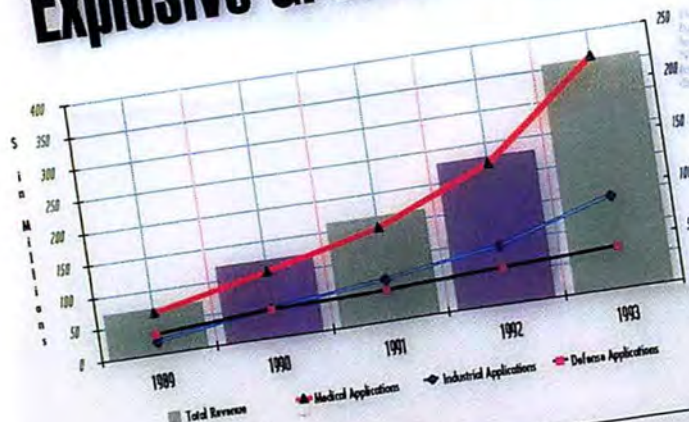
Nobell Chem now become a leading marketer of Nitro Glycerin in pill form, to aid in various medical uses. As a result of this development, Nobell Chem is now expanding its distribution channels.

1989	1990	1991	1992	1993
15	25	40	60	85
30	39	46	51	72
36	38	40	42	44
<b>81</b>	<b>102</b>	<b>126</b>	<b>153</b>	<b>201</b>

## Explosive Growth Potential



## Explosive Growth Potential





# People thought the nitro and glycerin.

If you own a Mac® you may already know what a phenomenally powerful piece of software Microsoft® Word is.

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# MacUser

## Special Report

### The 200 Best Macintosh Products ..... 93

*MacUser* spends most of the year covering hundreds of mainstream business products — from databases to spreadsheets to printers to hard disks. But that's not the whole story. Thousands of other products in the Mac marketplace can substantially boost your productivity or just make your computing more rewarding — these products too often miss the spotlight. For this end-of-the-year roundup, we sorted through them all to bring you the 200 best.



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EDITED BY RUSSELL ITO

**Flash!** Adobe fired the first shot with Type Manager, but after Apple and Microsoft joined forces to create a new font standard, this year's Seybold conference really saw the sparks fly. We take a critical look back at the highs and lows of 1989 — plus news, rumors, the hottest new products, upgrades of old favorites, and more.

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EDITED BY KRISTI COALE

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COMPILED BY GREGORY WASSON







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**Paring Down the System**

System Risk Factor	
LOW	1. Remove unnecessary files  
MEDIUM	2. Remove the Finder  
HIGH	3. Edit out resources  

**MacUser Labs****Tape-Backup Drives****MacUSER  
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BY JOHN RIZZO AND THE MACUSER LABS STAFF

The question isn't whether you should back up your hard disk — it's how. Faster and easier than floppies, tape-backup systems hold a lot of data for the money — but not all tape drives are created equal. MacUser Labs spent more than 1,000 hours testing 30 units to see which drive was the most reliable, easiest to use, and speediest.

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BY TIM TULLY AND

THE MACUSER LABS STAFF

When you back up with a tape drive, the software you use can make all the difference in the world. The backup program that comes bundled with your tape drive isn't always the easiest or the fastest. We tested three recently released third-party programs to see when trading up pays off.

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Bring back the dingbats.



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*MacUser* (ISSN 0884-0997) is published monthly by Ziff-Davis Publishing Co., a division of Ziff Communications Co., One Park Ave., New York, NY 10016. Editorial Offices: 950 Tower Lane, 18th Floor, Foster City, CA 94404. Telephone: (415) 378-5600. U.S. subscription rates are \$27 for 12 issues, \$45 for 24 issues, and \$62 for 36 issues. Additional postage for Canada: add \$18 per year to the U.S. rates for surface mail. Single-copy price is \$2.95 (Canada \$3.95).

POSTMASTER: Send address changes to *MacUser*, P.O. Box 56986, Boulder, CO 80321-6986. Second-class postage paid at New York, NY 10016, and at additional mailing offices.



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*MacUser* is always looking for new and unusual products for our StartUp, Power Tools, Bridges, and DTP sections, as well as for feature coverage. If you've got a product that you'd like to tell us about — whether it's new or an upgrade — send your letters or press releases to Michele Stokol, Editorial Assistant, *MacUser*, 950 Tower Lane, 18th Floor, Foster City, CA 94404.

### Technical Difficulties and Help

Although we can't offer any telephone assistance, *MacUser* welcomes your technical questions. If you've got a Mac question or problem, send it to Help Folder, *c/o MacUser*, 950 Tower Lane, 18th Floor, Foster City, CA 94404. If we can't give you an answer, we'll find someone who can. Because of the volume of mail we receive, we can't answer all your questions, so we also recommend that you take advantage of your local user groups. You can find the one nearest you by calling Apple toll-free at (800) 538-9696, ext. 500.

### Tips, Hints, and Programs

We love to get tips and hints (on a disk, please) from our readers. Any tips should be sent to Tip Sheet, *c/o MacUser*, 950 Tower Lane, 18th Floor, Foster City, CA 94404. We can't print every tip, but we try our best to pick the most interesting and representative ones for publication. We'd also like to hear from any programmers who are interested in contributing to our utilities disk series or labs-benchmark disk series. If you're interested, contact Michele Stokol at the address above.

### Writing for MacUser

If you have an idea for an article you'd like to write, we'd like to read it. Send a query letter with samples of your writing (published if possible) and some information about your background to Louise Kohl, Executive Editor, *MacUser*, 950 Tower Lane, 18th Floor, Foster City, CA 94404. No calls please. Since we rarely buy unsolicited manuscripts, save yourself some work and don't send us a completed article without writing first. Please allow four to six weeks for a reply.

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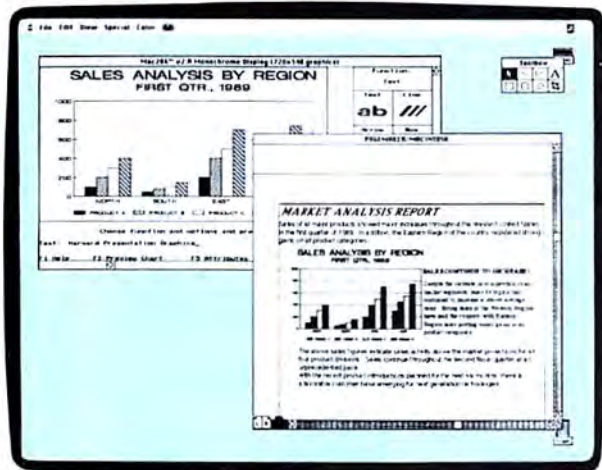
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# About MacUser...

## Product-Review Champions

Who can resist a list? Writers compile entire books of them. Dress designers build entire careers around them. And at the end of the year, *everyone* weighs in with the 20 best this or the 10 worst that. At *MacUser*, we're always interested in the best that the Macintosh community has to offer, but we didn't publish the Best of Everything lists that appear in this month's issue because we've succumbed to list mania. Instead, we're taking the opportunity to quickly cover some corners of the enormous Mac market that might otherwise have gotten overlooked this year.

Reporting on the complete spectrum of Mac software is a vital part of *MacUser's* charter, and we've turned to two of our most experienced veterans to help us carry it out every month. Chances are that you've already discovered Bobker's Dozen. Steven Bobker has performed in various roles for *MacUser* ever since the very first issue — technical editor, chief scientist, editor-in-chief — but regardless of his title, his trademark has always been hard-hitting, insightful reviews that get to the heart of a product without any beating around the bush.

Steve reviews more than 150 products a year in Bobker's Dozen, and he specializes in brilliant products that might otherwise get overlooked because they aren't coming from a million-dollar publisher or simply because they represent a brand-new idea. It's still a matter of controversy at the *MacUser* editorial offices, though, whether Steve's appetite for software exceeds his legendary capacity for sushi. (It's no accident that his Macintosh consulting firm is named Raw Fish Systems.)

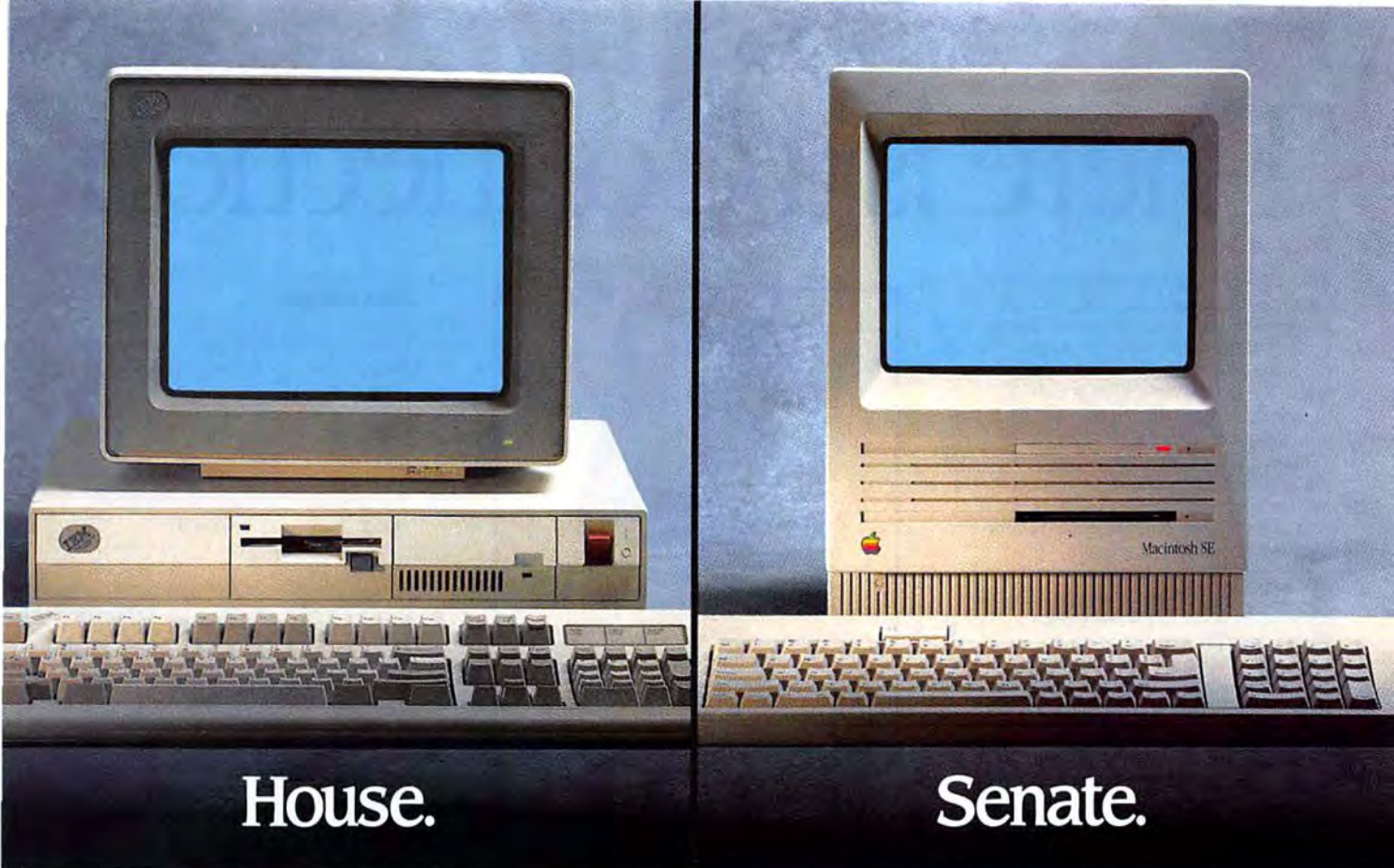
Steve will soon have competition, though — for business software anyway. Robert Wiggins has served as *MacUser's* contributing business editor since 1986, and his pragmatic assessments of the Mac from the business point of view have followed the evolution of the machine from business hopeful to corporate status symbol. Robert's Pinstripe Picks, which identified the best in business software, were always a big favorite with readers, so we're planning to spin it off in 1990 in an expanded version that highlights a collection of the most notable and useful business tools each month. If there's a software program that business users should know about, you can be sure that Pinstripe Picks will cover it.

Robert Wiggins and Steven Bobker — add them to your own list of Mac experts dedicated to bringing you the most in-depth, comprehensive coverage of the Mac market anywhere.



Between them, Steven Bobker and Robert Wiggins (in pinstripes) plan to report on more than 200 Mac products in 1990.





House.

Senate.

# We found a measure they could both agree on.

Up on the hill it looked like another split along party lines. Both Macintosh and PC users fought for access to the same information. Until a TOPS network brought them together in bipartisan agreement, that is.

## TOPS Tech Specs

- TOPS supports AppleTalk and FlashTalk running on twisted-pair cabling (telephone wire), and EtherTalk on thick or thin Ethernet cabling.
- All IBM PCs, PS/2 Models 25 or 30, or compatibles require TOPS FlashCard, 3Com EtherLink II or Western Digital EtherCard Plus. PS/2 Models 50 through 80, or compatibles require 3Com EtherLink/MC card.
- TOPS can be configured as a distributed, dedicated, or combination server network.

Maybe that's why TOPS has been voted the de facto standard for easy Mac-to-PC connectivity by some 600,000 users. All you have to do is install TOPS software in each Macintosh and PC on the network, add a network card to each PC, and you've got a quorum.

A polished diplomat in any arena, TOPS easily trades data from Lotus 1-2-3 to Excel, Microsoft Word PC to Word Mac and most other Mac and PC applications.

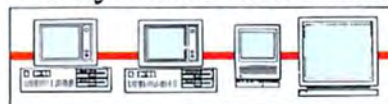
And if you're looking to discuss the issues with other networks and systems, such as Novell, AppleShare, and Sun NFS, TOPS provides the perfect forum.

No wonder, when it comes to making connections, TOPS is the people's choice. Call the TOPS Division of Sun Microsystems at 1-800-445-TOPS, ext. 306.



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When you need connections.



From outside the U.S. and Canada, call TOPS at 1-415-769-8700, ext. 306. Or write to TOPS, 950 Marina Village Parkway, Alameda, CA 94501. For information on European distribution, call 44 276 51440.



# There is a Connection

**WILL IT WORK ON MY MAC????** Good question. You see, most Mac users are now working on machines that have 1 Meg of RAM and the 128K ROM chips (i.e. a Mac Plus, SE, or an earlier Mac that's been upgraded to that level). For that reason, a great deal of hardware and software requires at least that configuration. So, if you own an earlier Mac 128K or 512K you should *always* tell us, when placing your order. That way we can tell you right away if what you want is compatible. And, if it's not, we can explain to you the different options for upgrading.

The majority of products we carry are now covered by 30-60 day Money Back Guarantees (as listed here in red). If you're not happy with one of those products, call us for an authorization and return it *with all of the original packaging* within the guarantee period for a refund check (or credit on your credit card).

Version numbers in our ads are current at press time. You will receive the latest version when you order, because that's all we sell. Also, all software is not copy-protected, unless indicated otherwise by (CP). Finally, please refer to the four-digit number next to the product when ordering. Thanks!



## Chang Labs ... 60 day MBG

*Rags to Riches 3 Pak Special*—One of the Mac's first and best accounting packages. Includes AR, AP, & GL. Buy before Dec. 31, 1989, and receive your choice of Professional Billing or Inventory Control FREE! ... \$289.

## ACCOUNTING & FINANCE

<b>★Aatrix Software ... 30 day MBG</b>	
5872	Checkwriter 2.0 ... 37.
3976	Aatrix Payroll 3.5 ... 109.
3958	Aatrix Payroll PLUS 3.1 ... 149.
4021	Aatrix TimeCard 2.0 ... 105.
4020	Aatrix TimeMinder 2.1.2 ... 149.
<b>Bedford Software</b>	
4977	Simply Accounting 1.04 ... 219.
<b>★Chang Labs ... 60 day MBG</b>	
1613	Rags to Riches Ledger 3.1 ... 118.
1614	Rags to Riches Payables 3.1 ... 118.
1617	Rags to Riches Receivables 3.1 ... 118.
1622	Rags to Riches 3-Pak 3.1 ... 289.
1612	Inventory Control 2.6 ... 235.



## Chang Labs ... 60 day MBG

*C.A.T. 2.0*—A lightning-fast relational database for managing your contacts, tracking facts, figures, events, projects, writing letters, and performing mailmerges ... \$229.

1615	Professional Billing 2.9 ... 235.
1616	Professional 3-Pak ... 355.
1618	Retail Business 3-Pak ... 355.
<b>★CheckMark Software ... 60 day MBG</b>	
5861	CashLedger 1.3A ... 119.
5862	Payroll 4.02 ... 179.
5863	MultiLedger 1.3 ... 239.
<b>★DacEasy Software ... 60 day MBG</b>	
4502	DacEasy Light 1.0 ... 42.
<b>★Dow Jones ... 30 day MBG</b>	
1786	Market Manager PLUS 2.0 ... 189.
<b>★Intuit ... 30 day MBG</b>	
2425	Quicken 1.5 ... 36.
<b>★Layered ... 30 day MBG</b>	
5207	atOnce! 1.0 ... 289.
2609	Insight Expert AP 2.02 ... 399.
2610	Insight Expert AR 2.2 ... 399.
2611	Insight Expert GL 2.1 ... 399.
2612	Insight Expert Inventory 1.01 ... 399.
5643	Insight Expert Payroll 1.0 ... 399.
2614	Insight Expert Time Billing 2.01 ... 399.
<b>★MECA ... 60 day MBG</b>	
2796	Managing Your Money 2.0 ... 124.
<b>★Monogram ... 30 day MBG</b>	
2780	Dollars & Sense 4.1C ... 81.
2779	Business Sense 1.2 ... 269.
<b>★Niles &amp; Associates ... 30 day MBG</b>	
5101	Grant Manager 1.75 ... 249.
<b>★Nolo Press ... 60 day MBG</b>	
2981	WillMaker 3.0 ... 32.
<b>★North Edge Software ... 30 day MBG</b>	
2986	Timeslips III 1.1 ... 169.
<b>Pro Plus Software</b>	
4310	Wall Street Investor 3.0 ... 449.
<b>★Survivor Software ... 30 day MBG</b>	
3289	MacMoney 3.5 ... 60.

## NUMBERS & DATABASES

<b>★Abacus Concepts ... 60 day MBG</b>	
4482	StatView SE + Graphics 1.03 ... 199.
4481	StatView II 1.03 ... 285.
5840	SuperANOVA 1.0 (for Mac Plus/SE) ... 465.
5904	SuperANOVA 1.0 (for Mac II) ... 465.
5906	SE + Graphics/SuperANOVA bundle ... 595.
5907	StatView II/SuperANOVA bundle ... 695.
<b>★Acicus ... 30 day MBG</b>	
5618	4th Dimension 2.0 ... 469.

4024	4th Dimension Runtime 1.06 ... \$229.
<b>Blyth Software</b>	
5492	Omnis 5 ... 349.
5855	Omnis 5 (Additional 1 user) ... 75.
<b>★BrainPower ... 60 day MBG</b>	
1532	DataScan 1.03 ... 109.
1535	DesignScope 1.15 ... 119.
1534	MathView Professional 1.1 ... 129.
1537	StatView 512+ 1.2 ... 149.
3960	ArchiText 1.03 ... special 159.
4066	The Analyzer Bundle (includes DataScan, DesignScope, and StatView 512+) ... 299.
<b>★Bravo Technologies ... 30 day MBG</b>	
1539	MacCalc 1.2D ... 79.
<b>★Chang Labs ... 60 day MBG</b>	
1611	C.A.T. 2.0 ... 229.
<b>Claris</b>	
4196	FileMaker II 1.1V2 ... 225.
1125	MacProject II 2.0 ... 375.
<b>★Fox Software ... 30 day MBG</b>	
5572	FoxBASE II/Mac ... 295.
4580	FoxBASE +/Mac Runtime 2.0 ... 179.
4844	FoxBASE +/Multi-User 2.0 ... 399.
5579	FoxBASE +/Multi-User Runtime ... 295.
<b>Individual Software</b>	
4720	101 Macros for Excel 1.5 ... 35.
<b>Informix</b>	
4955	Wingz 1.1 ... 259.
<b>★Microsoft ... 30 day MBG</b>	
2866	File 2.0A ... 125.
2884	Works 2.0 ... 185.
2865	Excel 2.2 ... 249.
5454	The Microsoft Office (includes Excel, Word, PowerPoint, and Mail) ... 529.
<b>★Nolo Press ... 60 day MBG</b>	
4228	For the Record 1.03 ... 28.
<b>★Odesta ... 30 day MBG</b>	
3014	GeoQuery 1.01 ... 198.
4211	DataDesk Professional 2.0 ... 288.
5621	Double Helix III ... 339.
<b>Paracomp</b>	
4664	Milo 1.0 ... 158.
<b>★Preferred Publishers ... 30 day MBG</b>	
4780	Database 1.12 ... 69.
<b>★ProVUE ... 60 day MBG</b>	
4582	Panorama 1.1.1 ... 202.
<b>★Rubicon Publishing ... 60 day MBG</b>	
3272	Dinner At Eight-Encore Edition (CP) ... 45.



## Mindscape

*Gauntlet*—Survive the dungeon while collecting valuables and destroying evil creatures ... \$30.  
*Balance of Power: The 1990 Edition*—Global politics and power struggles with multipolar level and 80 country participation ... 30.



# named Mac,



## Informix

**Wingz 1.1**—The largest, fastest and most versatile spreadsheet for any microcomputer—version 1.1 includes a 525 page HyperScript volume, new features, enhanced 3-D graphics and more ..... \$259.

## Satori

- 3320 BulkMailer 3.25 ..... 78.
- 3321 BulkMailer Plus 3.25 ..... 189.
- ★ **Softstream Int'l., Inc.** ... 60 day MBG
- 5439 Endeavour Planner 1.0 ..... 99.
- ★ **Synergy** ... 30 day MBG
- 3129 KaleidaGraph 2.0 ..... 145.

## GRAPHICS & DESIGN

- ★ **Aegis Development** ... 60 day MBG
- 4956 Showcase F/X 1.0 ..... 199.
- Altsys**
- 1194 FONtastic Plus 2.02 ..... 51.
- 5425 Art Importer 2.0 ..... 92.
- Bright Star Technology**
- 3962 HyperAnimator 1.5 ..... 99.
- Broderbund Software**
- 4065 PosterMaker Plus 2.5B ..... 35.
- 1427 Print Shop 1.3 ..... 35.
- 4501 Drawing Table 1.0 ..... 75.
- ★ **Casady & Greene** ... 60 day MBG
- 1575 Fluent Fonts 2.0 ..... 27.
- Claris**
- 1123 MacPaint II 2.0 ..... 95.
- 1117 MacDraw II 1.1 ..... 295.
- 4815 Smart Form Designer 1.01V ..... 295.
- 4814 Claris CAD 1.0 ..... 595.
- Cricket Software**
- 1667 Cricket Draw 1.1.1 ..... special 139.
- ★ **Deneba Software** ... 30 day MBG
- 1769 Canvas 2.0 ..... 169.
- ★ **DreamMaker** ... 30 day MBG
- 4088 MacGallery (MacPaint format) ..... 27.
- Dubl-Click Software**
- 3972 World-Class Fonts! Originals ..... 42.
- 3973 World-Class Fonts! Stylish ..... 42.
- 3974 World-Class Fonts! Giants ..... 42.
- 5131 World-Class Fonts! Triples ..... 42.
- 3964 WetPaint Classic Clip-Art (1 & 2) ..... 42.

- 3965 WetPaint For Publishing (3 & 4) ... \$42.
- 3966 WetPaint Animal Kingdom (5 & 6) ... 42.
- 3967 WetPaint Special Occasions (7 & 8) ... 42.
- 3968 WetPaint Printer's Helper (9 & 10) ... 42.
- 3969 WetPaint Industrial Revol. (11 & 12) ... 42.
- 3970 WetPaint Old Earth Almanac (13 & 14) ... 42.
- 3971 WetPaint Island Life (15 & 16) ... 42.
- 4940 WetPaint All the People (17 & 18) ... 42.

## ★ Electronic Arts ... 30 day MBG

- 5289 Studio/1 1.0 ..... 97.
- 4315 Studio/8 1.0 ..... 299.

## ★ Emerald City ... 30 day MBG

- 5168 Smart Art I 1.0 ..... 85.
- 5602 Smart Art II 1.0 ..... 85.
- 5603 Smart Art III 1.0 ..... 85.

## ★ Enabling Technologies ... 30 day MBG

- 1871 Pro3D 1.2 ..... 279.

## Enzan-Hoshigumi USA

- 1879 MacCalligraphy 2.0 ..... 99.

## ★ Foundation Publishing ... 60 day MBG

- 2385 Comic People ..... 21.
- 2384 Comic Strip Factory 1.6 ..... 38.

## ★ Generic Software ... 60 day MBG

- 4319 Generic CADD Level 1 1.1 ..... 84.

## ★ Graphsoft ... 30 day MBG

- 4993 MiniCad+ 2.0V4 ..... 519.

## ★ Great Wave ... 30 day MBG

- 2272 Crystal Paint 1.0 ..... special 25.

## Innovative Data Design

- 2417 MacDraft 1.2B ..... 143.
- 4707 Dreams 1.0 ..... 265.

## ★ Linguist's Software ... 60 day MBG

- Over 100 language fonts ..... call

- 2636 MacKanjii 6.0 ..... 59.

- 2641 LaserHebrew ..... 79.

## ★ MacroMind ... 30 day MBG

- 4953 VideoWorks II 2.0 ..... 175.
- 4952 VideoWorks II HyperCard Driver 1.2 ..... 60.
- 4954 VideoWorks II Accel. 1.1 ..... special 99.
- 5087 MacroMind Director 1.0 ..... 445.



## Altsys

**Art Importer 2.0**—(Formerly KeyMaster) creates high-resolution PostScript fonts. Use company logos, symbols, signatures, graphics and pictures as typeface characters. Each font supports up to 256 graphic characters ..... \$92.

## ★ MicroMaps ... 30 day MBG

- 5516 MacAtlas (Paint version) ..... \$45.
- 5514 MacAtlas (EPSF version) ..... 105.
- 5513 MacAtlas (Professional version) ..... 105.
- 5515 MacAtlas Presentation Pack ..... 105.

## Mindscape

- 5768 ZING 1.0 ..... 125.

## ★ NuEquation ... 30 day MBG

- 5428 NuPaint 1.0.4 ..... 79.

## Paracomp

- 4597 Swivel 3D 1.1 ..... 239.



## Thunderware ... 30 day MBG

**ThunderScan 5.0**—Turns your ImageWriter into a 32 true gray scale, high resolution scanner. Software includes PostScript printing effects, rotation, framing, captioning, shaping capabilities and image editing tools. .... \$187.

## ★ Silicon Beach ... 60 day MBG

- 3504 Silicon Press 1.1 ..... 52.
- 3506 SuperPaint 2.0 ..... 128.
- 3980 Digital Darkroom 1.1 ..... 249.
- 3507 Super3D 2.0 ..... 315.

## ★ Solutions Int'l. ... 60 day MBG

- 3446 The Curator 1.05 ..... 72.

## ★ SuperMac Software ... 60 day MBG

- 3380 PixelPaint 2.0 ..... 229.
- 5625 PixelPaint Professional 1.0 ..... 395.

## ★ T/Maker ... 30 day MBG

- 3632 ClickArt Business Images ..... 28.
- 3636 ClickArt Holidays ..... 28.
- 3633 ClickArt Christian Images ..... 35.

## ★ 3G Graphics ... 30 day MBG

- 3942 Images with Impact: Graphics 1 ..... 52.
- 4583 Images with Impact: Business 1 ..... 65.

## ★ Timeworks ... 30 day MBG

- 5908 Publish-It! 1.0 ..... 225.

## ★ Zedcor ... 60 day MBG

- 3986 DeskPaint & DeskDraw 2.01 ..... 65.

## PUBLISHING & PRESENTATIONS

### Adobe Systems

- 5750 Adobe Type Manager ..... 57.
- 1138 The Collector's Edition ..... 79.
- 4816 The Collector's Edition II ..... 129.
- 5001 StreamLine 1.0 ..... 229.



# That always stands



**Antic Software ... 30 day MBG**

*FlexForm Business Templates I & II*—Create business forms with flair! Each contains over 35 professionally developed business forms templates. Can also be used with SmartForm Designer to meet your specific needs. . . . . each \$49.

5605	True Form 2.0 . . . . .	225.
5606	True Form FillOut 2.0 . . . . .	169.
1137	Adobe Illustrator '88 1.9 . . . . .	279.
1142	Newsletters/Publishing Pack 1 . . . . .	229.
4565	Forms and Schedules Pack 2 . . . . .	279.
4566	Presentations Pack 3 . . . . .	279.

*MacConnection carries the entire Adobe Type Library (volumes 1-106). Listed below are Adobe's newest typefaces at press time.*

5239	84 Concorde . . . . .	125.
5240	85 Gothic 13 . . . . .	95.
5241	86 Cochon . . . . .	125.
5242	87 ITC Bauhaus . . . . .	125.
5243	88 Sabon . . . . .	125.
5244	89 Hiroshige . . . . .	239.
5245	90 Arnold Bocklin . . . . .	125.
5246	91 Dom Casual . . . . .	95.
5247	92 Post Antiqua . . . . .	95.
5248	93 Folio . . . . .	125.
5249	94 Linoscript . . . . .	95.
5250	95 VAG Rounded . . . . .	125.
5675	96 Akzidenz Grotesk . . . . .	125.
5674	97 Impressum . . . . .	95.
5673	98 Bauer Bodoni . . . . .	125.
5672	99 New Aster . . . . .	239.
5671	100 Adobe Garamond . . . . .	179.
5670	101 Adobe Garamond Expert Coll. . . . .	125.
5669	102 Candida . . . . .	95.
5668	103 Franklin Gothic No. 2 . . . . .	95.
5667	104 Utopia . . . . .	179.
5666	105 Utopia Expert Collection . . . . .	125.
5665	106 ITC Berkeley Oldstyle . . . . .	239.

**\*Aldus ... 30 day MBG**

1330	Freehand 2.02 . . . . .	345.
4751	Persuasion 1.0 . . . . .	369.
1331	PageMaker 3.02 . . . . .	385.

**Altsys**

1195	Fontographer 3.0 (CP) . . . . .	249.
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**\*Antic Software ... 30 day MBG**

5756	FlexForm Business Templates I . . . . .	49.
5760	FlexForm Business Templates II . . . . .	49.

**\*Casady & Greene ... 60 day MBG**

4839	Vivid Impressions . . . . .	67.
1576	1 Bodoni . . . . .	46.
1587	2 Sans Serif . . . . .	46.
1588	3 Ritz . . . . .	46.
1589	4 Monterey . . . . .	46.

1590	5 Calligraphy . . . . .	\$46.
1591	6 Prelude . . . . .	46.
1592	7 Coventry-Zephyr . . . . .	46.
1593	8 Dorovar-Gregorian . . . . .	46.
1594	9 Cyrillic . . . . .	46.
1577	10 Bodoni Ultra . . . . .	46.
1578	11 Sans Serif Bold . . . . .	46.
1579	12 Sans Serif Extra Bold . . . . .	46.
1580	13 Gatsby Light . . . . .	46.
1581	14 Micro . . . . .	46.
1582	15 Micro Extended . . . . .	46.
1583	16 Galileo Roman . . . . .	46.
1584	17 Campanile-Giotto . . . . .	46.
1585	18 Alexandria . . . . .	46.
1586	19 Jott . . . . .	46.
4204	20 Gazelle & Kells . . . . .	46.
4205	21 Paladin-Abalene . . . . .	46.
4206	22 Collegiate . . . . .	46.
4838	Quill Pack (Vol. 8 & 20) . . . . .	89.
4836	Headline Pack (Vol. 10-12) . . . . .	125.
4837	Modern Pack (Vol. 7, 14-18) . . . . .	159.
4834	Distinctive Pack (Vol. 8, 19-22) . . . . .	159.
4833	Classic Pack (Vol. 3-6, & 13) . . . . .	159.



**Microlytics ... 60 day MBG**

*GOfer 2.0*—A powerful software utility for searching, finding and retrieving text, is now 50% faster. Works with best-selling word processors, DTP files and utilities. . . . . \$47.

**Cricket Software**

1668	Cricket Graph 1.3 . . . . .	115.
1670	Cricket Presents 2.0 . . . . .	285.

**\*DreamMaker ... 30 day MBG**

4840	Cliptures: Business 1 . . . . .	69.
4841	Cliptures: Business 2 . . . . .	69.

**Dubl-Click Software**

World-Class LaserType Vol. 1-9 . . . . . ea. 42.

**\*Farallon Computing ... 30 day MBG**

4684	ScreenRecorder 1.0 . . . . .	129.
2199	MacRecorder 2.0 . . . . .	164.

**ICOM Simulations**

5682	MacKern 1.0 . . . . .	115.
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**Letraset**

2621	Ready,Set,Go! 4.5 . . . . .	275.
2619	Image Studio 1.5 . . . . .	275.
4709	LetraStudio 1.0 . . . . .	275.

**Mansfield Systems**

5892	TableTools 1.0 . . . . .	269.
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**\*Microsoft ... 30 day MBG**

2878	PowerPoint 2.01 . . . . .	249.
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**\*Postcraft Int'l. ... 60 day MBG**

3157	Laser FX 1.7 . . . . .	99.
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**\*Preferred Publishers ... 30 day MBG**

5751	Exposure 1.1 . . . . .	54.
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**Quark**

4621	QuarkStyle 1.0 . . . . .	\$175.
3230	Quark XPress 2.11 . . . . .	479.

**\*Softstream Int'l., Inc. ... 60 day MBG**

4996	UltraSpec 1.0 . . . . .	95.
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**\*Springboard ... 30 day MBG**

3530	Certificate Maker 2.0 . . . . .	22.
3532	Certificate Library . . . . .	18.
4497	Top Honors 1.01 . . . . .	59.
4500	Springboard Publisher II . . . . .	89.

**\*T/Maker ... 30 day MBG**

3635	EPS Illustrations . . . . .	74.
5167	EPS Business Art . . . . .	74.

## PROGRAMMING & HYPERMEDIA

**Apple Computer**

1118	HyperCard 1.2.2 . . . . .	42.
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**Bantam Publishing**

1403	Complete HyperCard Handbook . . . . .	22.
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**\*Beacon Technology ... 30 day MBG**

4967	HyperBible (King James) 1.0 . . . . .	145.
4968	HyperBible (New International) 1.0 . . . . .	175.

**Borland International**

1511	Turbo Pascal 1.1 . . . . .	68.
1512	Turbo Pascal Tutor 1.0 . . . . .	46.

**Broderbund Software**

5237	Whole Earth Catalog (CD ROM) . . . . .	89.
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**\*Digitalk ... 60 day MBG**

5166	SmallTalk/V Mac 1.1 . . . . .	129.
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**\*DreamMaker ... 30 day MBG**

4115	MacGallery (HyperCard format) . . . . .	27.
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**\*Emerald City ... 30 day MBG**

5728	LaserTalk 1.0 . . . . .	149.
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**Hyperpress Publishing**

5435	HyperOne 1.0 . . . . .	29.
4233	Icon Factory 1.0 . . . . .	29.
5089	Script Library 1.0 . . . . .	29.
4265	Script Expert 1.0 . . . . .	45.
5434	Intelligent Developer 1.0 . . . . .	219.

**ICOM Simulations**

4085	TMON 2.8.2 . . . . .	89.
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**Individual Software**

4719	101 Scripts & Buttons Hypercard 1.0 . . . . .	36.
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**\*Manx Software ... 60 day MBG**

4317	Aztec SDB . . . . .	63.
4316	Aztec C UniTools . . . . .	63.
4069	Aztec MPW C 3.6B . . . . .	95.



**Great Wave ... 30 day MBG**

*KidsMath 1.1*—An exciting math educational program. Allows young children, from 3 to 8 years of age, to play and move easily between eight different games. KidsMath is designed to teach and reinforce basic math concepts. . . . \$26.



# out from the pack.

4075	Aztec C + SDB 3.6B.	\$95.
	★MicroMaps ... 30 day MBG	
5512	HyperAtlas	59.
5518	QuickMap	59.
	★Microsoft ... 30 day MBG	
4471	QuickBasic 1.0.	65.
	Olduvai	
5446	PLUS 1.1	109.
	★Silicon Beach ... 60 day MBG	
5100	SuperCard 1.0	128.
	★SmethersBarnes ... 30 day MBG	
1478	Prototyper 2.1	189.
	★Softstream Int'l., Inc. ... 60 day MBG	
5440	HyperHIT 1.0	125.
	★Somak Software ... 30 day MBG	
5897	ScriptEdit 1.0	51.
	★Springboard ... 30 day MBG	
4495	Family Matters 1.0	28.
	★Symantec ... 30 day MBG	
4644	Just Enough Pascal 1.0	47.
3421	THINK Pascal 2.0	85.
3420	THINK C 4.0	149.
	★Symmetry ... 30 day MBG	
3318	HyperDA 1.2	49.
	TENpoint0	
1338	Reports! 1.2.2.	69.
4638	Focal Point II 1.0	117.
	★Timeworks ... 30 day MBG	
5905	The Hyperworks Organizer 1.0	57.



**Thunderware ... 30 day MBG**  
*LightningScan*—Hand-held scanner with the features you need for 16 levels of true gray scale, high resolution graphics. Powerful, user-friendly software lets you scan from within any application or use its image editing tools. . . . \$369.

3571	Algebra Utilities	29.
3580	Pre-Calculus (with Trigonometry)	29.
3583	Scientific Graphics Tool Kit	39.
	★Zedcor ... 60 day MBG	
3985	ZBASIS 5.0.	89.

## UTILITIES

	★Abbott Systems ... 30 day MBG	
5236	CanOpener 1.0	65.
	★Affinity Microsystems ... 60 day MBG	
1014	Affinifile 1.1.	45.
1016	Tempo II 1.02	75.
	★Berkeley Systems ... 30 day MBG	
5737	After Dark 1.0	25.
1541	Stepping Out II 2.01	50.
	Beyond, Inc.	
4203	MenuFonts 2.02	28.
	Borland	
1510	Sidekick 2.0	68.
	★Bravo ... 30 day MBG	
5404	SPAMM 1.1	48.
	★Casady & Greene ... 60 day MBG	
2269	QuickDEX 1.4A	31.
	★CE Software ... 60 day MBG	
1727	CalendarMaker 3.0.	32.
1728	DiskTop 3.0.4	32.
4689	MockPackage Plus Utilities 4.4	32.
1729	QuickKeys 1.2	65.
	★Central Point ... 30 day MBG	
5040	Copy II Mac 7.2	24.
5041	PC Tools Deluxe Mac 1.1	45.
	Connectix	
5727	Virtual 2.0	125.
	★Dantz Development ... 30 day MBG	
5255	Retrospect 1.0	152.
	Dubi-Click Software	
1824	Calculator Construction Set 2.01	46.
	★Electronic Arts ... 30 day MBG	
1843	Disk Tools Plus 1.01 (Batteries Incl.)	31.

## ★Fifth Generation ... 60 day MBG

4287	PYRO! 3.3 (screen saver)	\$14.
3954	PowerStation 2.5.	34.
3955	Suitcase II 1.2.3	44.
5178	FastBack II 2.0	107.
5725	DiskLock 1.0.	108.

## ★HJC Software ... 30 day MBG

4803	Virex 2.1	55.
5885	Virex 2.1 (10 Pack)	349.

## ICOM Simulations

4084	On Cue 1.3	35.
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## ★Kent Marsh Ltd. ... 30 day MBG

5457	QuickLock 1.0	57.
2591	The NightWatch 1.03	87.
2592	MacSafe 1.08D.	87.

## ★Loop Software ... 30 day MBG

5442	PictureBook	40.
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## ★Lundeen & Assoc. ... 60 day MBG

2683	WorksPlus Command 2.0	57.
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## MEDIA GENIC

4591	Open It! 1.0	49.
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## ★Microlytics ... 60 day MBG

2732	GOfer 2.0	47.
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## ★Microseeds Pub. ... 60 day MBG

4848	INITPicker 1.0.	27.
4210	Screen Gems 1.0	39.
2913	Redux 1.5.	51.

## Olduvai Software

4503	MultiClip 1.01	50.
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## ★Software Innovations ... 30 day MBG

5869	HandOff	32.
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## ★Solutions Int'l. ... 60 day MBG

3448	SmartScrap & The Clipper 2.1	45.
3449	SuperGlue II 2.0	61.

## ★SuperMac Software ... 60 day MBG

3383	SuperSpool 5.0	58.
3382	SuperLaserSpool 2.0	88.
3378	SuperLaserSpool 5-Pack 2.0	295.
3377	DiskFit 1.5	58.
3379	Network DiskFit 1.5.	229.



## Abbott Systems ... 30 day MBG

*CanOpener 1.0*—The one program to open all your files. You can search and retrieve text, pictures and sound from anywhere. It even works with corrupted files. . . . \$65.

## ★TML Systems ... 30 day MBG

3548	TML Source Code Library II 1.1	39.
4989	TML Pascal II 3.0 (w/o MPW 3.0)	57.
3549	TML Pascal II 3.0 (w/MPW 3.0)	109.
	Trendware	
5203	Stack Cleaner	29.
5202	HyperTools #1 1.02.	52.
5199	HyperTools #2 1.03.	52.
5609	XCAL 1.0	79.
	True BASIC, Inc.	
3587	True BASIC 2.01	55.



## American Power ... 30 day MBG

*110SE Uninterruptible Power Supply*—Ultra compact UPS, designed for Macintosh SE, Plus, 512K or disk-less workstations. Will run Mac SE/Plus with external drive a full 10 minutes during a total blackout. . . . \$269.



# They ship overnight,



## Sensible Software ... 30 day MBG

*Sensible Grammar 1.5.4*—Checks grammar, phrases (over 4,500), and punctuation. Works with many word processors including MacWrite II, WordPerfect, Word 4.0, Works 2.0, and more. Many other features and reports ... \$53.

3381	Sentinel 2.0	88.
★Symantec ... 30 day MBG		
5176	Symantec Anti-virus for Mac 1.0	63.
5724	Symantec Utilities for Mac II	95.
★Williams & Macias ... 30 day MBG		
3779	DiskFinder	27.
3783	myDiskLabeler w/Color 2.9.1I.	28.
3784	myDiskLabeler w/LaserWriter 2.9.1LI.	33.
3780	ImageWriter II Label Pack (Qty. 216)	15.
3781	LaserWriter Label Pack (Qty. 216)	18.
4976	Sticky Business 1.0.7	89.
★XTree ... 30 day MBG		
5177	XTreeMac 1.02	52.

## WORD PROCESSING

★A Lasting Impression ... 30 day MBG		
5465	ResumExpert (reqs. MS Word 3+)	39.
5749	ResumExpert Cover Letters	39.
5853	ResumExpert Sales and Marketing	39.
5852	ResumExpert Management	39.
★Advanced Software ... 30 day MBG		
5608	DocuComp 1.11	89.
★Aegis Development ... 60 day MBG		
1133	Word Tools 1.2	42.
Ashton-Tate		
1324	FullWrite 1.1	259.
Claris		
1129	MacWrite II	185.
★Deneba Software ... 30 day MBG		
4700	BigThesaurus 1.0	59.
1767	Comment 2.0	59.
1768	Coach Professional 3.0C	115.
★Electronic Arts ... 30 day MBG		
1543	Thunder II 1.01 (Batteries Included)	52.
★Lundeen & Assoc. ... 60 day MBG		
2684	WorksPlus Spell 2.0A	57.
★Microlytics ... 60 day MBG		
2733	Word Finder 2.0	35.
4870	Electronic WordFinder 220	69.
★Microsoft ... 30 day MBG		
2885	Write 1.0	79.
4969	Word 4.0	249.
★Niles & Associates ... 30 day MBG		
5048	EndLink 1.0	58.
4602	EndNote 1.2.1	75.
★Paragon Concepts ... 30 day MBG		
5683	Nisus 2.03	249.

★Preferred Publishers ... 30 day MBG		
4781	Vantage 1.1	\$54.
★Sensible Software ... 30 day MBG		
3375	Sensible Grammar 1.5.4	53.
★Symantec ... 30 day MBG		
3422	More II 2.01	245.
★Symmetry ... 30 day MBG		
4504	Acta Advantage 1.0	65.
★T/Maker ... 30 day MBG		
3639	WriteNow 2.0	109.
★WordPerfect ... 60 day MBG		
3800	WordPerfect Mac 1.0.2	185.
★Working Software ... 30 day MBG		
3790	Lookup 1.0C	30.
3788	Findswell 2.0	36.
3792	Spellswell 2.0G	45.
4693	QuickLetter 1.0	73.



## Abacus Concepts ... 60 day MBG

*SuperANOVA 1.0*—Analyzes virtually any general linear model used by researchers and engineers who perform ANOVA, ANCOVA, MANOVA, MANCOVA, and regression on their data. Revolutionary ease of use ... \$465.

## MUSIC & EDUCATION

★Ars Nova ... 60 day MBG		
1215	Practica Musica 2.1	72.
★Bogas Productions ... 60 day MBG		
1461	Studio Session 1.2 SE	45.
4255	Super Studio Session 2.0	65.
1459	Heavy Metal Rock	13.
1460	String Quartet	13.
1458	Country Disk	13.
4832	Sound Effects	13.
5719	Brass Disk	13.
Bright Star Technology		
3961	Talking Tiles 1.0	27.
1402	Alphabet Blocks 1.0	30.
Broderbund Software		
4314	Type! 1.0	19.
1423	Jam Session 1.1 (CP)	29.
1422	Geometry 1.2 (CP)	58.
4067	Calculus 1.2 (CP)	58.
1426	Physics 1.2 (CP)	58.
Carina Software		
5726	Voyager 1.0	69.
Coda Music Systems		
4367	MacDrums 1.01 (CP)	31.
4483	Perceive 1.0	50.
5854	MusicProse 1.0	169.
5604	Finale 1.2.6	399.
Davidson & Associates		
1734	Math Blaster! 1.0 (CP)	27.

4978	Speed Reader II 1.0 (CP)	\$27.
★Electronic Arts ... 30 day MBG		
4619	Mavis Beacon Typing 1.2B (CP)	32.
1846	Deluxe Music Construction Set 2.5	84.
★First Byte ... 30 day MBG		
5294	Puzzle Storybook 1.0 (ages 3-8)	27.
5293	Dinosaur Discovery Kit 1.0 (ages 3-8)	27.
3941	SmoothTalker 2.1	32.
3936	KidTalk 2.0 (ages 5-15)	32.
3940	First Shape 2.0 (ages 3-8)	32.
3935	Speller Bee 2.0 (ages 5-12)	32.
★Great Wave ... 30 day MBG		
2277	TimeMasters 1.0 (ages 4+)	22.
2276	KidsTime 1.2 (ages 3-8)	26.
5642	KidsMath 1.1 (ages 3-8)	26.
4334	NumberMaze 1.1 (ages 5-12)	26.
2270	American Discovery 2.3 (ages 9+)	26.
2273	ConcertWare+ 4.0	38.
2271	ConcertWare+ MIDI 4.0	78.
★Learning Company ... 30 day MBG		
2670	Reader Rabbit 2.1 (CP)(ages 4-7)	31.
5453	Talking Math Rabbit 1.0 (ages 4-7)	31.
★Penton Overseas ... 30 day MBG		
5864	VocabuLearn/ce French (level 1)	30.
5887	VocabuLearn/ce French (level 2)	30.
5865	VocabuLearn/ce Italian (level 1)	30.
5889	VocabuLearn/ce Italian (level 2)	30.
5867	VocabuLearn/ce Spanish (level 1)	30.
5891	VocabuLearn/ce Spanish (level 2)	30.
5868	VocabuLearn/ce German (level 1)	30.
5888	VocabuLearn/ce German (level 2)	30.
5866	VocabuLearn/ce Japanese (level 1)	36.
5890	VocabuLearn/ce Japanese (level 2)	36.

## ★Personal Training Sys. ... 60 day MBG

Excelerate Training Series		
4946	E1 Beginning Spreadsheets	29.
5091	E2 Creating Business Graphs	29.
4858	E3 Intermediate Spreadsheets	29.
5092	E4 Building Databases	29.
5093	E5 Beginning Macros	29.
5094	E6 Linking Spreadsheets	29.
5095	E7 Advanced Spreadsheets	29.
5099	E8 Advanced Macros	29.
Excelerate 2.2 Training Series		
5573	XL1 Beginning Spreadsheets	39.
5574	XL2 Intermediate Spreadsheets	39.
5575	XL3 Advanced Spreadsheets	39.
5576	XL4 Creating Business Graphics	39.



## Cutting Edge ... 30 day MBG

*Cutting Edge Hard Drives* are fast and reliable with access times as low as 23 milliseconds and a mean time between failure rating of up to 100,000 hours. An outstanding combination of quality and low price ... see line listing.



# their prices are right



## DataViz ... 60 day MBG

*MacLink Plus/PC 4.1*—Sends files between a Mac and any other desktop environment like DOS, OS/2, Sun and NeXT. Over 100 translators insure quick and easy transfers. ... \$125.  
*MacLink Plus/Translators 4.1* ... 99.

## MacTeach Training Series

- 5263 B1 The Basics (for 2 floppy drives) ... 39.
- 5264 B2 The Basics (for Plus or SE w/HD) ... 39.
- 5265 B3 The Basics (for Mac II w/HD) ... 39.
- 5266 B4 Beyond the Basics ... 39.

## LearnWord Training Series

- 4947 W1 Beginning Level ... 39.
- 4854 W2 Intermediate Level ... 39.
- 5098 W3 Advanced Level ... 39.
- 5418 W4 Additional Features ... 39.

## LearnPersuasion Training Series

- 5269 LP1 Beginning Persuasion ... 39.
- 5270 LP2 Intermediate Persuasion ... 39.
- 5271 LP3 Creating AutoTemplates ... 39.
- 5272 LP4 Creating Artwork ... 39.

## HyperEasy Training Series

- 5194 H1 Using HyperCard ... 39.
- 5195 H2 Creating Cards & Stacks ... 39.
- 5267 H3 Basic Scripting ... 39.
- 5268 H4 Advanced Scripting ... 39.

## PageTutor Training Series

- 4852 P1 Beginning PageMaker ... 39.
- 4853 P2 Intermediate PageMaker ... 39.
- 5096 P3 Tips & Techniques ... 39.
- 5097 P4 Advanced Features ... 39.

## MasterWorks Training Series

- 5196 M1 Database & Form Letters ... 39.
- 5197 M2 Advanced Databases ... 39.
- 5273 M3 Spreadsheets ... 39.
- 5274 M4 Word Processing ... 39.

## Learn88 Training Series

- 5259 A1 Beginning Illustrator ... 39.
- 5260 A2 Intermediate Illustrator ... 39.
- 5261 A3 Creating Special Effects ... 39.
- 5262 A4 Precision Drawing Techniques ... 39.

## Learn FileMaker Training Series

- 5278 FM1 Beginning FileMaker ... 39.
- 5279 FM2 Intermediate FileMaker ... 39.
- 5280 FM3 Advanced FileMaker ... 39.
- 5281 FM4 Tips & Techniques ... 39.

## ★Simon & Schuster ... 60 day MBG

- 3305 Typing Tutor IV 1.2 ... \$34.

## ★Spinnaker ... 30 day MBG

- 2329 SAT Score Improvement 1.0 (CP) ... 57.

## ★Springboard ... 30 day MBG

- 4493 Atlas Explorer (CP) ... 28.

## ★Think Educational ... 60 day MBG

- 3615 MacEdge II 1.0 (CP)(ages 6-14) ... 27.
- 3616 Mind Over Mac 1.4 (CP) ... 27.

## ★Unicorn ... 30 day MBG

- 3751 Animal Kingdom (CP)(ages 6-12) ... 27.
- 3756 Math Wizard (CP)(ages 5-10) ... 27.
- 3755 MacRobots (CP)(ages up to 6) ... 27.
- 3754 Read-A-Rama (CP)(ages 5-8) ... 32.

## ENTERTAINMENT

### Access Software

- 4655 World Class Leader Board Golf ... 27.

### Activision

- 4475 Quarterstaff (CP) ... 29.
- 4486 Manhole ... 30.
- 5127 Manhole (CD ROM) ... 35.
- 5517 Cosmic Osmo ... 42.

### Addison-Wesley

- 4407 The Hobbit (CP) ... 24.
- 4474 Fellowship of the Ring (CP) ... 24.

### Broderbund Software

- 5886 Star Wars ... 24.
- 4099 Shufflepuck Cafe (CP) ... 24.
- 4111 Moebius (CP) ... 24.
- 1421 Ancient Art of War (CP) ... 26.
- 4540 Ancient Art of War at Sea (CP) ... 26.
- 4229 Where/World Carmen Sandiego? (CP) ... 27.
- 5755 Where/Europe Carmen Sandiego? (CP) ... 29.
- 5233 Where/USA Carmen Sandiego? (CP) ... 29.
- 4966 SimCity 1.1 (CP) ... 29.
- 4966 SimCity Supreme (CP) ... 48.

## ★Bull City Software ... 30 day MBG

- 5841 Moriarty's Revenge ... 32.



## Bull City Software ... 30 day MBG

*Moriarty's Revenge*—An intriguing detective game. Track a suspect around the world and determine his characteristics to catch him. Increasing difficulty. Computerized detective's notebook and over 1,000 clues ... \$32.

## Bullseye

- 1545 Fokker Triplane 2.02 (CP) ... \$24.
- 1544 Ferrari Grand Prix (CP) ... 32.
- 4074 P51 Mustang Flight Simulator (CP) ... 32.

## ★Casady & Greene ... 60 day MBG

- 2268 Crystal Quest 2.2T ... 25.
- 4119 Crystal Quest w/Critter Editor 2.2T ... 41.



## Intuit ... 30 day MBG

*Quicken 1.5*—Automates routine financial tasks, delivers comprehensive financial reports, even links directly with MacInTax. Perfect for anyone who'd rather spend their time earning money rather than keeping track of it. ... \$36.

## ★Discovery Software ... 30 day MBG

- 4408 Arkonoid ... 26.

## ★Electronic Arts ... 30 day MBG

- 1850 Reach for the Stars ... 26.
- 1842 Chessmaster 2100 (CP) ... 32.
- 5554 Bard's Tale ... 32.
- 4064 Chuck Yeager Flight Simulator ... 32.
- 4588 Life & Death (CP) ... 32.
- 4945 The Hunt for Red October ... 32.
- 4981 Starfleet 1 ... 36.

## Infocom

- 5814 Journey ... 29.
- 5816 Shogun ... 35.
- 4592 Zork Zero (CP) ... 35.
- 5815 Zork Zero (for the Mac II) ... 35.

## ★Inline Design ... 30 day MBG

- 5870 Bomber ... 26.

## MicroProse

- 4697 Pirates! (CP) ... 35.

## ★Microsoft ... 30 day MBG

- 2868 Flight Simulator (CP) ... 33.

## Miles Computing

- 5253 The Puzzle Gallery ... 27.
- 2765 Fool's Errand (CP) ... 32.
- 2767 Harrier Strike Mission II (CP) ... 32.

## Mindscape

- 4083 Balance of Power 1990 (CP) ... 30.
- 3987 Colony (CP) ... 30.
- 4596 Deja Vu II (CP) ... 30.
- 2743 Crossword Magic (CP) ... 30.
- 2749 Shadowgate (CP) ... 30.
- 5252 Gauntlet (CP) ... 30.
- 2751 Uninvited (CP) ... 30.



# And they guarantee



## Targus ... 60 day MBG

Mac SE & Ext. Keyboard Case—Made of a dust & water-resistant material as strong as Cordura but smoother so it won't wear out clothes. Closed cell foam protects against jolts. . . \$69.  
ImageWriter II Carry Case— . . . 45.

2750 Siboot: Trust & Betrayal (CP) . . . 30.

## Premier Technology

5773 Strategic Conquest Plus 2.0 . . . 35.

5774 NetTrek-The Real Version . . . 35.

## Sierra On-Line

4161 Mother Goose (CP) . . . 19.

3397 Leisure Suit Larry (CP) . . . 23.

3394 King's Quest (CP) . . . 29.

3395 King's Quest II (CP) . . . 29.

3396 King's Quest III (CP) . . . 29.

3398 Police Quest (CP) . . . 29.

3399 Space Quest (CP) . . . 29.

3400 Space Quest II (CP) . . . 29.

## ★Silicon Beach ... 60 day MBG

3502 Beyond Dark Castle . . . special 24.

3501 Apache Strike . . . special 24.

3503 Dark Castle . . . special 24.

## Sir-Tech

3347 Mac Wizardry (CP) . . . 35.

## ★Softstream Int'l., Inc. ... 60 day MBG

4071 Mac•Man . . . 23.

4072 The Solitaire DA . . . 23.

4995 Cribbage Tutor . . . 26.

4073 Colour Billiards . . . 38.

## ★Spectrum Holobyte ... 30 day MBG

4175 Solitaire Royale (for Mac SE) . . . 19.

4001 Solitaire Royale (for Mac II) . . . 19.

3464 Tetris . . . 19.

4472 Tetris (color version) . . . 24.

3462 PT-109 . . . 26.

3460 GATO . . . 26.

3459 Falcon 2.0 . . . 31.

## ★Spinnaker ... 30 day MBG

2328 Sargon IV (CP) . . . 29.

## ★Springboard ... 30 day MBG

4988 Hidden Agenda . . . 36.

## ★SubLogic ... 60 day MBG

4698 Jet (CP) . . . 32.

## XOR

3144 MacGolf 2.0 (CP) . . . 34.

4320 MacGolf Classic (CP) . . . 53.

4321 Lunar Rescue (CP) . . . 34.

4517 Road Racer (CP) . . . 39.

## NETWORKS & COMMUNICATIONS

## ★Abaton ... 30 day MBG

4589 InterFAX Modem . . . 269.

## ★CE Software ... 60 day MBG

5817 QuickMail Remote . . . \$33.

5174 QuickMail (5 user Pak) . . . 169.

5173 QuickMail (10 user Pak) . . . 249.

5636 In/Out (5 user Pak) . . . 129.

5638 In/Out (10 user Pak) . . . 189.

## ★CompuServe ... 60 day MBG

1676 CompuServe Information Service . . . 24.

1673 CompuServe Navigator 2.1 . . . 45.

1674 Standard Service/Navigator Bundle . . . 59.

## Connect, Inc.

5834 Connect 1.5 for the Macintosh . . . 95.

## ★DataViz ... 60 day MBG

1823 MacLink Plus/PC 4.1 . . . 125.

4842 MacLink Plus/Translators 4.1 . . . 99.

## ★Dove Computer ... 60 day MBG

4939 FastNet III . . . 375.

4938 FastNet SE . . . 375.

5624 FastNet SE30 . . . 375.

4937 FastNet SCSI . . . 749.

## ★Dow Jones ... 30 day MBG

5295 News/Retrieval Membership Pack . . . 24.

1785 Desktop Express 1.03 . . . 95.



## Premier Technology

NetTrek-The Real Version & Strategic Conquest Plus 2.0—

The first real-time space battle simulator and realistic strategic war game. Full color networkable entertainment. Challenge other networked users or your Mac. . . . each \$35.

## ★Farallon Computing ... 30 day MBG

5707 Timbuktu 3.0 . . . 95.

4866 Timbuktu Remote 1.0.1 . . . 129.

4867 Timbuktu 30-Pack 3.0 . . . 1325.

2201 TrafficWatch 1.08 . . . 132.

2202 PhoneNET to LocalTalk Adapter . . . 8.

5664 PhoneNET StarConnector . . . 21.

2203 PhoneNET PLUS (DIN-8) . . . 33.

2204 PhoneNET PLUS (DB-9) . . . 33.

5251 PhoneNET CheckNET . . . 65.

4869 PhoneNET Connector 10-Pack . . . 215.

4868 PhoneNET Repeater . . . 319.

2206 PhoneNET StarController . . . 1095.

2205 Star Wiring Kit (Punchdown) . . . 65.

5455 Star Wiring Kit (Harmonica) . . . 65.

5893 Portable Pack (incl. two copies each of Timbuktu & Timbuktu Remote, two StarConnectors, and accessories) . . . 375.

## ★Freesoft ... 60 day MBG

2219 Red Ryder 10.3 . . . 51.

## Hayes

2300 Smartcom II 3.1A . . . 87.

2307 Smartmodem 2400 . . . 429.

## Insignia Solutions

4089 SoftPC 1.3 . . . 245.

## Intel Corporation

5119 2400 Baud External Modem . . . \$179.

## ★Microsoft ... 30 day MBG

5858 Microsoft Mail 2.0 Workstation . . . 84.

5856 Microsoft Mail 2.0 Server . . . 255.

5857 Microsoft Mail 2.0 (20 Pack) . . . 969.

## ★Nuvotech ... 60 day MBG

3000 TurboNet ST (DIN-8) . . . 30.

3001 TurboNet ST (DB-9) . . . 30.

5277 TurboBridge . . . 319.

## ★Practical Peripherals ... 30 day MBG

3100 1200 Baud External Modem . . . 77.

3102 2400 Baud External Modem . . . 179.

5285 PM 2400SA MNP Modem . . . 209.

3089 Mac Communications Pack 1.5 . . . 225.

## ★Shiva ... 30 day MBG

3444 NetSerial X232 . . . 279.

4347 NetBridge . . . 339.

4942 TeleBridge . . . 339.

3443 NetModem V2400 . . . 439.

## ★Software Ventures ... 30 day MBG

3454 MicroPhone 1.5 . . . 115.

3455 MicroPhone II 3.0 . . . 219.

## ★Solutions Int'l. ... 60 day MBG

4308 BackFAX (reqs. Apple FAX modem) . . . 124.

## ★Synergy ... 30 day MBG

3130 VersaTerm 4.0 . . . 89.

3131 VersaTerm-PRO 3.0 . . . 175.

## ★TOPS ... 30 day MBG

4188 TOPS Teleconnector (DIN-8) . . . 29.

4189 TOPS Teleconnector (DB-9) . . . 29.

3726 TOPS for DOS 2.1 . . . 114.

4598 TOPS FlashBox . . . 123.

3725 TOPS Repeater . . . 129.

3723 TOPS Mac 2.1 . . . 145.

3720 TOPS Flashcard . . . 159.

3724 NetPrint 2.0 . . . 115.

4714 InBox Starter Kit 2.2 . . . 149.

4715 InBox Connection Mac 2.2 . . . 45.

## ★Traveling Software ... 60 day MBG

3729 LAP-LINK Mac 2.0 . . . 81.

## INPUT/OUTPUT

## ★American Power ... 30 day MBG

5895 110SE UPS . . . 269.

## Caere

4476 OmniPage 2.0 . . . 549.



## Datadesk ... 30 day MBG

Mac-101 Keyboard—Includes macro program, Masterstrokes, to assign keystrokes and mouse clicks to 15 function keys. Beige, platinum, or ADB version. . . . \$139.  
Foreign keyboards are also available . . . call





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Just for the record, all the ads in this series feature photographs of real live MacConnection customers and the real live letters they wrote us. Really!



# (\*All companies in red)

## ★Avery ... 60 day MBG

4864	Disk Labels 3 1/2" (Qty. 250)	\$13.
5392	Disk Labels—Laser 3 1/2" (Qty. 630)	29.
5403	Address Labels 1 7/16" x 4" (Qty. 1000)	9.
4865	Address Labels 3 1/2" x 1 5/16" (Qty. 3750)	15.
4811	Transparencies 8 1/2" x 11" (Qty. 50)	22.
4813	Round Labels 3 1/2" (Qty. 150)	7.
4812	Laser Labels 1/2" x 1 3/4" (Qty. 2000)	7.
4807	Laser Labels 1" x 2 5/8" (Qty. 3000)	24.
4808	Laser Labels 1 1/2" x 4" (Qty. 1400)	24.
4809	Laser Labels 2" x 4" (Qty. 1000)	24.
4810	Laser Labels 8 1/2" x 11" (Qty. 100)	24.

## ★Basic Needs ... 60 day MBG

5635	Keyboard Flip	8.
5633	LaserWriter Printer Stand	28.
5634	Large Screen Monitor Stand	38.

## ★Computer Coverup ... 60 day MBG

1722	ImageWriter LQ Cover	8.
1723	ImageWriter II Cover	8.
1720	Mac Plus Cover	10.
1724	Mac SE Cover	10.
1725	Mac SE Ext. Keyboard Cover Set	10.
4657	LaserWriter II Cover	10.

## ★Goldstein & Blair ... 30 day MBG

2267	The Macintosh Bible (2nd Edition)	19.
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## ★I/O Design ... 30 day MBG

2379	MacLuggage Imageware II	49.
2376	MacLuggage Macinware Plus	64.
2381	MacLuggage Macinware SE	75.

## ★Kensington ... 30 day MBG

MacConnection carries the entire line of Kensington's accessories. Partial listing below.

2577	Mouseway Pad	7.
2563	Mouse Pocket ADB	8.
2569	Mac Plus/SE w/System Saver Cover	9.
2558	ImageWriter II Dust Cover	9.
2589	Universal Printer Stand	15.
4970	Modem/FAX Protector 10	15.
4971	Modem/FAX Protector 20	25.
4126	LaserWriter II Dust Cover	17.
2580	Mac II Stand	20.
2545	Universal Copy Stand	22.
2573	Tilt/Swivel (platinum)	22.
2578	Extra Long ADB Keyboard Cable	25.
2579	Mac II Monitor Cable Extension Kit	33.
4972	Power Tree 10	19.
4973	Power Tree 20	27.

4974	Power Tree 50	\$54.
2559	Apple Security Kit	34.
2568	MacAccessories SuperBase	34.
2585	Printer Muffler 80	43.
2586	Printer Muffler 80 Stand	24.
4070	System Saver SE	52.
2566	System Saver Mac (platinum)	63.
2567	System Saver Mac (beige)	63.
2546	A-B Box (DIN-8)	63.
2556	MacAccessories Anti-Glare Filter SE	33.
5064	Apple Color Monitor Polarizing Filter	63.
5065	Full Page Display Polarizing Filter	63.
5066	Two Page Display Polarizing Filter	135.
4941	Mac II Monitor Stand	64.
4643	Mac II Stand and Cable Kit	64.
2561	MasterPiece Mac II	105.
5894	PowerBacker 360	269.
5577	PowerBacker 450	339.
5578	PowerBacker 520	399.
5230	PowerBacker 800	749.
5228	PowerBacker 1200	949.

## ★MacConnection ... 60 day MBG

4623	Solid Oak Disk Case, made by New England craftsmen (holds 90 disks)	29.
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**Farallon Computing ... 30 day MBG**  
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## ★Mobius Technologies ... 60 day MBG

4470	Fanny Mac QT	59.
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## ★Moustrak ... 60 day MBG

Available in blue or gray.		
2694	Moustrak Pad (standard 7" x 9")	8.
2692	Moustrak Pad (large 9" x 11")	9.
2693	Moustrak Pad L/F (9" x 11")	10.

## ★NoRad ... 30 day MBG

5620	Shield for Mac Plus or SE (*2524)	99.
5622	Shield for Mac II (*2523F)	99.

## Ribbons

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3255	ImageWriter II Ribbon	4.
3261	ImageWriter II 4-Color Ribbon	9.
3270	ImageWriter II Rainbow Six Pack	20.
3260	ImageWriter LQ Black Ribbon	17.
4011	ImageWriter LQ 4-Color Ribbon	20.

## ★Sopris Softworks ... 60 day MBG

4171	Mac SE Std. Keyboard Cover (navy)	15.
4019	Mac SE & Ext. Keyboard Cover (navy)	15.
4017	ImageWriter II Cover (navy)	11.
4018	LaserWriter II Series Cover (navy)	17.
4012	High Trek ImageWriter II Carry Case	49.



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4013	High Trek Mac Plus Carry Case	59.
4014	High Trek Mac SE & Ext. Kybd. Case	69.
5877	Mac II Monitor Carry Case	59.
5839	Mac IIcx CPU & Kybd. Carry Case	69.
4861	SE Protection Pak (std. keyboard)	65.
4862	SE Protection Pak (ext. keyboard)	75.

## ★Targus ... 60 day MBG

3618	ImageWriter II Carry Case	45.
3617	Mac Plus/SE Carry Case	55.
4015	Mac SE & Ext. Kybd. Carry Case	69.

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- ★**Datadesk ... 30 day MBG**
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- ★**Kensington ... 30 day MBG**
- 2576 Turbo Mouse for Mac Plus 3.0 . . . . 109.
- 2547 Turbo Mouse ADB 3.0 . . . . . 109.
- Koala**
- 2593 MacVision 2.0 . . . . . 219.
- ★**Kraft Systems ... 60 day MBG**
- 2600 3-Button QuickStick . . . . . 39.
- 4082 3-Button QuickStick ADB . . . . . 49.
- Kurta**
- 2604 IS ADB 8 1/2" x 11" Tablet . . . . . 255.
- 5161 IS ADB 12" x 12" Tablet . . . . . 385.
- 5162 IS ADB 12" x 17" Tablet . . . . . 625.
- 2605 Cordless 4 Button Cursor . . . . . 65.
- ★**Logitech ... 30 day MBG**
- 5082 ScanMan Mac . . . . . 325.
- ★**LYNX Computer ... 30 day MBG**
- 1211 LYNX Trackball . . . . . 59.
- 1212 LYNX Trackball ADB . . . . . 59.
- ★**Microseeds Pub. ... 60 day MBG**
- 4843 WristMac 1.0 . . . . . 149.
- 5018 WristMac Executive 1.0 . . . . . 199.
- ★**Mobius Technologies ... 60 day MBG**
- 4846 MultiScreen . . . . . 315.
- ★**Mouse Systems ... 30 day MBG**
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- ★**Nutmeg Systems ... 30 day MBG**
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- 5680 19" Monitor for Mac SE30 . . . . . 1195.
- 4097 19" Monitor for Mac II . . . . . 1195.
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- 5138 Read-It! OCR Personal 2.0 . . . . . 99.
- 3034 Read-It! OCR 2.1 . . . . . 245.
- ★**Orange Micro ... 30 day MBG**
- 4488 Grappler Spooler . . . . . 38.

- 3036 Grappler C/Mac/GS 2.0 . . . . . \$78.
- 4076 Grappler LQ 1.5 . . . . . 103.
- 4487 Grappler LS 1.0 . . . . . 103.
- ★**PTI/DataShield ... 30 day MBG**
- 5254 MacDirector . . . . . 109.
- Summagraphics**
- 4298 BitPad Plus ADB . . . . . 319.
- ★**Thunderware ... 30 day MBG**
- 3648 ThunderScan 5.0 with PowerPort . 187.
- 4994 LightningScan . . . . . 369.
- 3645 Mac II Power Accessory . . . . . 45.

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- 1811 MacSnap 548E . . . . . 419.
- 1812 MacSnap 548S . . . . . 479.
- 1800 MacSnap 2SE . . . . . 319.
- 1797 MacSnap Plus 2 . . . . . 319.
- 1804 MacSnap 2S . . . . . 209.
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- 1793 MaraThon 020 MSE1 . . . . . 429.
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- 5388 FastNet LAN 4 (1 Meg/chip) . . . . . 1724.
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- 1113 Black ImageWriter Ribbon . . . . . 10.
- 1114 LaserWriter Plus Toner Cartridge . . 111.
- 1115 LaserWriter II Toner Cartridge . . . 119.





# MAIL

M E R G E

**Innumeracy may be the new educational plague, but it hasn't yet reached Montreal, whence Andrew R. Lewis writes: "A big company charges \$30 for a .1 upgrade that fixes bugs in a \$300 program, and then 12 months later it comes up with version 2 and charges another \$110. Someone could buy the same version 2 for \$300, a lot less than my versions 1, 1.1, and 2 at \$440. I admit it's not much money, but why should early supporters lose out?" Not much money? At today's prices, that's enough to buy an extra megabyte of RAM — which'll come in handy for version 2.**

## WRITE TO

Letters to the Editor, c/o *MacUser*  
950 Tower Lane  
18th Floor  
Foster City, CA 94404

All letters become the property of *MacUser*, and we reserve the right to edit any letters we print.

COMPILED BY JAMES BRADBURY

## QuickDraw MacDraw II

I take issue with the implication that only a PostScript printer is capable of producing complex graphics ("Fit to Print," September '89). You compared the output of a PostScript printer with that of a QuickDraw printer to illustrate PostScript's advantages when printing rotated and odd-sized text and hairlines. I duplicated this figure in MacDraw II version 1.1 and printed it on my GCC Personal LaserPrinter, a QuickDraw printer that uses Bitstream fonts. The print quality is virtually identical to that of your PostScript output. My point is that the GCC printer can perform at the level of a PostScript printer for many tasks, and it costs significantly less money.

**Rich Phillips**  
Sunnyvale, CA

*You owe the quality of your output to MacDraw II, not to the printer. Some applications, such as MacDraw II and Adobe Illustrator '88, include custom code for working around the limitations of QuickDraw. If you use one of these programs with a non-PostScript printer, you can indeed obtain excellent results. Our example showed the worst-case scenario — what you get if your program doesn't compensate for QuickDraw's drawbacks.* — AA

## Silentwriter Wronged?

As an authorized NEC service technician, I wish to rebut the "results" published by your "team of experts" regarding the NEC Silentwriter LC 890 ("Fit to Print," September '89). You said, "It was the slowest printer we tested." Of course it is; the speed of the 68000 processor is the slowest of the group. You also complained of "poor print quality." The symptoms described (darker-than-normal printing and plugged-up type) stem from a dirty LED-array head. Did your "experts" bother to read the user manual and learn how to clean it? Finally, if this printer is so bad, why is its price/performance ratio only 2 percent less than the LaserWriter IINT's?

**Robert D. Hanson**  
Murrysville, PA

*Seven of the other printers also used the 68000 processor; the Silentwriter was still the slowest. The unit we tested was brand new and should not have needed cleaning. As for price/performance, the LaserWriter IINT had one of the poorest ratios, and the Silentwriter fared even worse. Enough said.* — HB

## Free for All

I'm appalled that Symantec has the nerve to charge money for SAM, a virus detector/eradicator. Also available now is HJC Software's Virex, a similar program that I think does a disservice to Mac users everywhere. These companies want people to pay money for a program that does what other, public-domain programs do better. People have no right to make money from viruses. Taking advantage of a cruel joke is not something a large, popular software company should do, and I think Symantec should think about what viruses are — a public problem — and not charge for its program.

**Jason Ehrlich**  
Elkins Park, PA

*See October's StartUp for an evaluation of two of the latest commercial antivirus programs: Symantec's SAM and 1stAid Software's Anti-Virus Kit (we covered Virex in June '89). One thing commercial developers do offer is technical support and regular upgrades. During the big virus scare more than a year ago, many public-domain packages flooded the BBSs; most haven't been upgraded with any regularity, and technical support is almost nonexistent. If you're interested in a good public-domain package that does offer tech support and upgrades, try Disinfectant from John Norstad.* — KC

## Table the Issue

Your recent review of our product TableTools (September '89) has unfortunately misinformed *MacUser* readers. TableTools is a professional desktop-publishing application with numerous capabilities for comparative scientific, financial, catalog, and database publishing. The review seems to be searching for an application with which to compare TableTools, when no other application like it exists. In the performance table, this review compares TableTools with a non-WYSIWYG word processor that's manipulating tabbed text. In the next paragraph, the review faults TableTools because it does not have the capabilities of charting, structured-document, database, or layout applications. In addition, a number of vague terms, such as *tricky* and *nonstandard*, are used, conveying a negative impression, without saying why.

**James A. Duke**  
President, Mansfield Systems, Inc.  
Palo Alto, CA

*Mr. Duke's defensive letter does*



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*TableTools an injustice. The first half of my review did nothing but highlight the product's many features. As Mr. Duke says, TableTools is the first in its class; as soon as Maccreation's Tycho — another table maker — is released, we'll compare the two programs (as well as the table-making capabilities of Excel, Ragtime, and Word). As for interface flaws, I found TableTools' use of certain modal dialogs that wouldn't go to the background very annoying, especially with the limited screen space of an SE or a Plus. I found the border line tool "tricky" because it was unforgiving: If you didn't get the tool surgically positioned over a cell line, it wouldn't draw the border, and hidden restrictions could limit what it would draw. And I usually couldn't undo things if I didn't like the results, since TableTools' Undo is limited primarily to text operations. — MM*

## Which SnapJot?

I always read *MacUser* from cover to cover, starting from the front, but some products sound a lot better when you read in the other direction. Steven Bobker loved SnapJot on page 286 of your October issue because the screen-capture utility "can capture anything, including pull-down menus." Unfortunately, Dave Valiulis, on page 239, was less enthusiastic. SnapJot "can't capture pulled-down menus," he noted.

**Christopher Anderson**  
Washington, DC

*If it sounds like our reviewers looked at different programs, it's because they did; Steve Bobker saw SnapJot 2.0, which*

## Dear Mr. Sculley . . .



■ ■ ■ The preannouncement of **System 7** (and its requirements) has some longtime Apple users up in arms. Ralph Erle Wasmer, Jr., of Yates Center, Kansas, was among the readers who want the top brass in Cupertino to know that they aren't at all comfortable with the idea of being left behind with System 6 (as posited in *Mail Merge*, September '89): "That a hard disk and 2 megabytes of memory are required in order to use the new System is so unjust and unfair. The changes that are rumored at this point for the upgrades of 7.0 are perhaps just too slick and yuppie-ish. The Mac interface is very good as it stands. I would suggest that features and benefits be the order of the day." One such feature that Wasmer wants to see is a greater range of printing options: "Printer drivers for other than the ImageWriter and LaserWriter would be a help. Some of us have several types of printers that we use — including a few daisy-wheel printers." Andrew M. Chisholm, of Lincoln, Nebraska, on the other hand, wants to see something added to System 7 that so far hasn't made any features lists: "Why did Apple decide to take the San Francisco font out of the System? Maybe it will be back with System 7 . . ."

. . . a constructive suggestion for improving **Apple's customer relations** comes from Gordon Bass, of Reston, Vir-

ginia: "How much would it cost Apple to staff a toll-free telephone line for consumer questions, and how much goodwill (not to mention good information!) would it produce? Other companies (Claris, PepsiCo, Digital Equipment, to name a few) have found it beneficial to handle customer questions about their products directly." Perhaps if Apple did set up such a line, there would be fewer people like Richard L. Measures, of Somis, California, who, after cataloging not one but three horror stories, wondered "if any of Apple's higher-ups were in management training at Ford Motor Company during the Pinto family-crematorium-on-wheels heyday?"

## Speak Up:

This fall Apple introduced two new Macs — the Portable and the Ili — both of which are heavy on technical innovation and not exactly light on the pocketbook. All told, Apple has introduced four new Macs (so far) during what John Sculley promised would be "the year of the CPU," and all have been on the cutting edge of current technology.

**A low-priced Mac: How much should such a machine be expected to do and at what price?**

Send your thoughts to Dear Mr. Sculley, c/o *MacUser*, 950 Tower Lane, 18th Floor, Foster City, CA 94404.







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The DataPak is actually faster than many fixed drives with its 25ms access time and 1:1 interleave.

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With all these features it's no wonder that DataPak is the only product of its kind to win three awards for outstanding quality and performance.

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"Best Alternative Storage System" - MacWorld

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## THE JX-100. COLOR AND GRAY-SCALE SCANNING FOR \$995.

The Sharp JX-100 personal scanner can be summed up in one word: versatility. This revolutionary scanner features three modes of operation—color, true grayscale and monochrome—at up to 200 dpi. Whether you're producing B&W newsletters, color overheads, slides, or picture databases, the JX-100 fits the bill without breaking the budget.

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**MAIL**

*added the ability to capture pull-down menus. We aren't kidding when we say the reviews in Bobker's Dozen are fresh—they have a later deadline than features such as Dave Valiulis' piece. That's how the new version of SnapJot slipped in. — JB*

### War Games

In the feature "Razor Blades in Apples" (September '88), you mistakenly relate Core Wars to the genre of computer viruses afflicting many computer users today. Core Wars is in no way disposed to the proliferation of surreptitious programming within the public computing network. The ICWS (International Core Wars Society) is organized to conduct tournament play, which does pit pairs of surreptitious programs against one another in a battle for control of the computer, but we are not advocates of having such programming released to the general computing community.

**William R. Buckley**  
Huntington Beach, CA

### Sorry, Wrong Platform

The Intergraph ad for MicroStation in the October issue wasn't the ad we intended to run. Our film house goofed. The ad that should have run appears this month. However, readers with PCs might go back to the October issue and read the ad that we didn't intend to run.

**Gary Hines**  
Intergraph Corp.  
Huntsville, AL

### CLARIFICATIONS

#### Macintosh IIci Benchmarks

The benchmark timings for the Macintosh IIci in our November issue were mislabeled. The IIci with a cache card actually had the fastest time, with the stock IIci and IIcx following, in that order.

#### Olduvai's Phone

In our November review of Plus, we printed Olduvai's fax number instead of its voice-line number. Olduvai's correct telephone numbers are (800) 822-0772 and (305) 665-4665.



# ColorMAX 8/24. It goes from 8 to 24 bits in \$500 flat.



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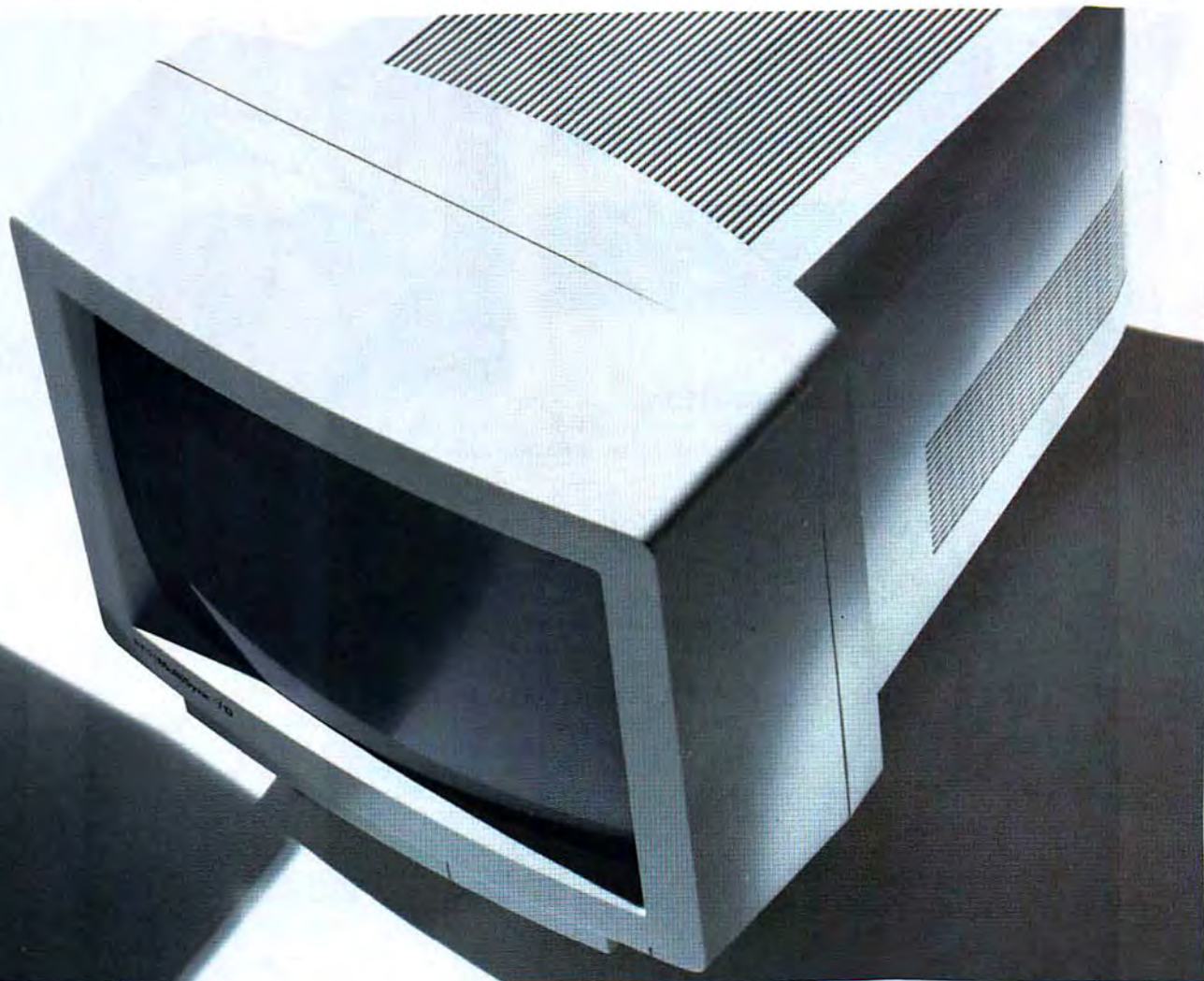
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Computers and Communications



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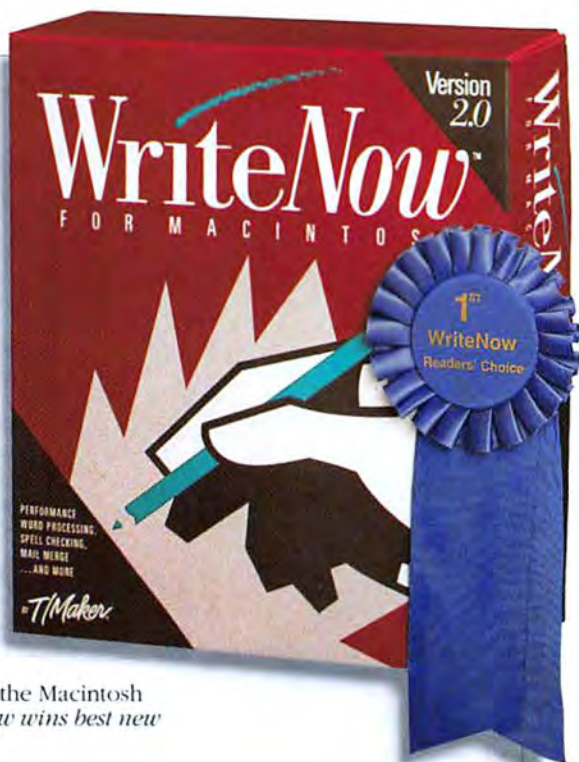
# The Right Choice... WriteNow.



**"Best New Word Processor"**  
MacUser Magazine, May 1989

**"Readers' Choice"**  
MACazine, January 1989

**"Golden Gavel Award"**  
MacGuide, Winter 1988



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WriteNow has all the power business users need, including: Mail merge; 100,000 word spelling dictionary; multiple columns; in-line graphics; format accelerators (style sheet equivalents); outline indenting, character and word counting, fixed and flexible line spacing, and much more. As important, WriteNow is the fastest word processor in the Mac world, whether you've got a small Mac 512KE or a loaded Mac IIcx.

	Copy & paste large area	Search for a word	Spell check document	Change indents & double spacing	Undo ruler changes
WriteNow 2.0	6.7 sec.	2.9 sec.	7.4 sec.	23.3 sec.	1.6 sec.
MacWrite II	45.9 sec.	40.2 sec.	33.6 sec.	44.7 sec.	24.7 sec.
MS Works 2.0	1 min. 50.8 sec.	35.7 sec.	5 min. 13.4 sec.	2 min. 24.1 sec.	1 min. 14.5 sec.
MS Word 4.0	21.6 sec.	11.0 sec.	3 min. 55.1 sec.	39.4 sec.	25.8 sec.

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It's almost like some ancient wintry druidic rite: As the days grow shorter and the air turns cold, critics begin churning out their Top 10 lists, on topics ranging from recent films to local restaurants to high-growth stocks to family cars.

With so many products competing for our attention and so much mediocrity in the marketplace, who can resist such "Best of . . ." lists? Everybody wants the best. Mac users especially know all about this. After all, how successful would Apple have been with a slogan like "The Power to Be Pretty Good"?

The trouble is that lists can be dangerous. While lists serve a useful purpose by cutting through hype and revealing the few standouts, people sometimes mistakenly assume that anything not

each issue, starting with this one. Future issues of *MacUser* will include as many as four Lab Reports on separate topics.

We provide you with buying recommendations on several levels. Our Lab Reports offer unparalleled in-depth coverage of single-focus topics. Our head-to-head big-name shoot-outs and roundups pit the hottest, newest products in each category against each other to see which ones come out on top. Our increasingly popular Bobker's Dozen department gives you the scoop on terrific products from smaller companies that might otherwise have been overlooked. And beginning in January, columnist Robert Wiggins will take a critical look at hard-core business products.

*MacUser's* Lab Reports and other product reviews have become the industry standard. And in an effort to serve you even

## The Best of Everything

included on such a list is next to worthless. And, if the list compilers aren't extremely careful, they may end up unconsciously rewarding liberal spenders and products with lots of flash, at the expense of solid, quiet performers. Worse, "Best of . . ."

better, we decided to add something totally new and different in this issue.

Our editors and lab testers eat, sleep, and breathe Mac products. We work around the clock torture-testing all important new hardware and software. (In fact, when a 5.3 earthquake recently rumbled through the area at 1:30 in the morning, some of us were hard at work in the office. We're on the 18th floor of a quakeproof tower designed to sway back and forth a few feet when the earth moves. Fortunately, we were testing something other than hard disks at the time.)

All of us admire especially good hardware and software, regardless of function. When a tester uncrates a particularly crisp monitor or capable scanner, or when a reviewer discovers an especially elegant or intuitive or intelligent application, we all end up crowding around it appreciatively, helping put the product through its paces or just cheering it on.

But with so many complex new products arriving daily, it becomes increasingly difficult to be a true expert in every single area. While our jobs require that we all have fairly encyclopedic knowledge of the industry in general, most editors tend to specialize in a subset of product categories.

Many of us gravitate toward DTP and graphics products.

Increasingly large numbers of our editors and lab personnel find themselves in the temporary home of our connectivity lab (while its large new quarters are under construction) evaluating network software and hardware. Lots of us hardware junkies blissfully bang away on every new storage device, screen, printer, voice unit, and anything else mounted in a box with a wire coming out of the back.

**A**fter all,  
how successful  
would Apple have  
been with a  
slogan like 'The  
Power to Be  
Pretty Good'?



BY PAUL SOMERSON

choices can often be so openly subjective that they become more interesting as windows into the list compilers' psyches than as useful tallies of quality.

The only lists that *MacUser* generally publishes are the result of rigorous, lab-based benchmark evaluations. Each issue, we get our hands on every single product in several key categories, run them all through an exhaustive battery of tests in MacUser Labs, and report the resulting performance levels. Then we assign our trademark mouse ratings and add necessary subjective data (numbers are important but don't always tell the whole story).

Finally, we identify particular user needs and then recommend the best products to suit each need. Many more serious business users pay to get this critical buying information in *MacUser* than in any other Mac publication. A whole lot more.

In order to bring you such comprehensive coverage of every important product category, we'll be substantially expanding our Lab Reports in the year ahead. We're currently working on several blockbuster tests involving unprecedented numbers of products (including one in the February issue on more than 100 hard disks). And we're increasing the number of Lab Reports in



A large editorial contingent favors word processors, while an equally significant segment enjoys working with database managers, communications packages, and spreadsheets. Our programmers and code-crunchers toil silently away into the wee

hours, studying powerful language products. And a handful of business experts spend most of their time happily sorting through accounting, financial, and statistical packages.

It's important not to become utterly

absorbed in these relatively glamorous categories at the expense of smaller but equally important ones. After all, it's hard to resist a truly intelligent CAD package, a gorgeous continuous-tone color printer, or a new generation of video accelerators that turn the Mac into a genuine real-time machine.

But biggest isn't always best. Our goal is to give you *all* the Mac-related product and productivity information you need. While we do report on products in smaller categories (such as clip art or utilities) throughout the year, much of our attention in the other 11 months is on mainstream business-oriented hardware and software — the bread and butter of the industry.

However, many of you could probably use an INIT to manage your fonts adroitly, or a powerful macro program to cut repetitive chores down to size, or something to clean up messy E-mail files, or a DA that lets you view any file regardless of the application that created it, or an educational product that eases you effortlessly into the world of programming, or a painless typing tutor, or a collection of recorded sounds to liven up business presentations, or a better sound system than the normal internal Mac speaker, or the best labor-saving Excel or PageMaker templates, or an inexpensive security device, or a convenient envelope printer, or some of the hundreds of other productivity-boosting niche products.

In this end-of-year issue, we present more than 200 of what we feel are the very best of these, along with our recommendations for the best books, fonts, stacks, games, and accessories — just in time for the holiday season. (For readers interested in learning which mainstream business products we rated as best this year, we've put together a quick index at the beginning of the cover story.)

But while MacUser Labs normally tests and retests every product and assigns mouse ratings to every review we publish, we've handled these 200-plus personal picks differently. Because these reviews aren't the result of our usual extensive lab tests, we didn't rate or rank the products. And while we made the lists as comprehensive as space permitted, we certainly didn't intend to imply that any product not included here wasn't worthy of your consideration.

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**Mac SE/30**  
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SE 30-1 Floppy - \$3,149  
SE 30/40Mb - \$3,499  
SE 30/80Mb - \$4,725  
Mac II CX - 1 Floppy - \$3,369  
Mac II CX - 40Mb - \$3,869  
Mac II CX - 80Mb - \$5,089

### Monitors:

Mac Mono Monitor - \$289  
Mac II RGB - \$719  
Mac II Portrait - \$789  
Mac 2-Page Mono - \$1,549

### Video Cards:

Mac 8-Bit Video - \$469  
Mac II Portrait - \$429  
Mac II 2-Page Mono - \$429

### Printers:

Imagewriter II - \$437  
LW II NT w/Toner - \$3,539  
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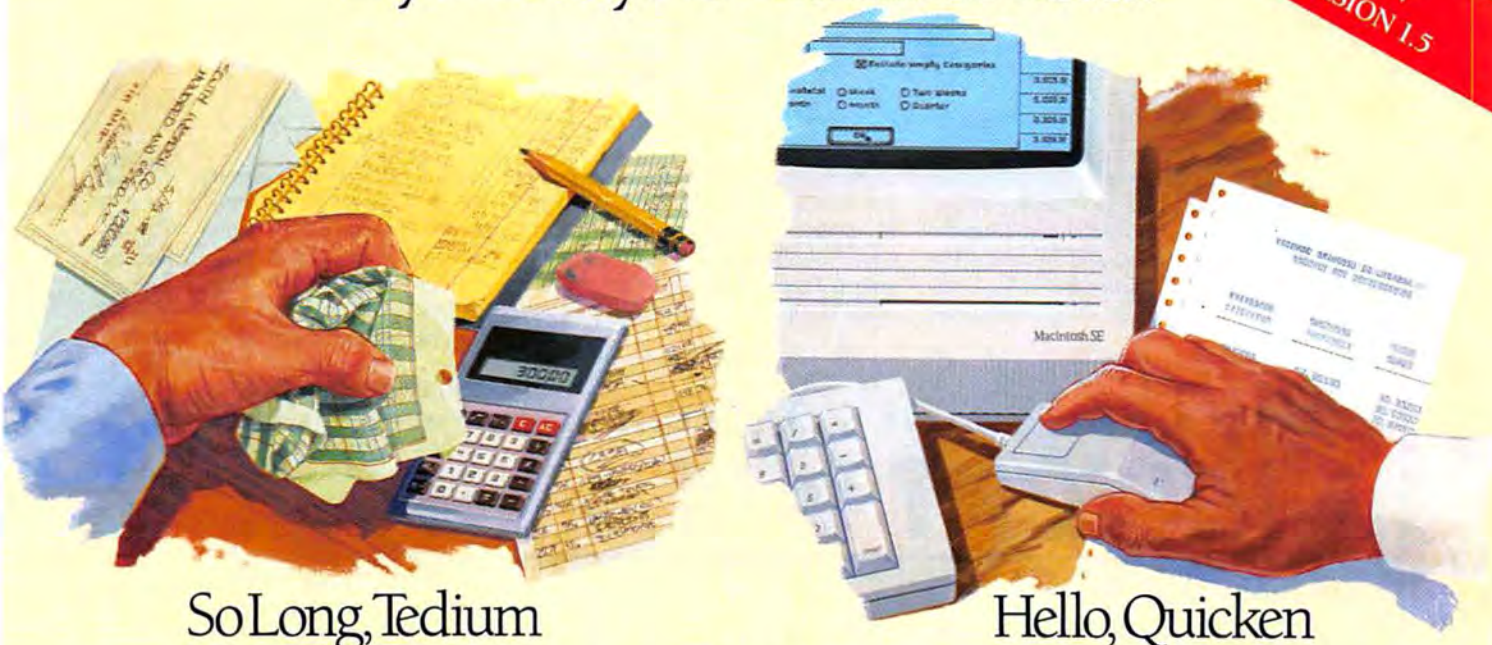
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G-MU12



The selections were made by *MacUser* staffers, aided by a few outside experts. Sal Parascandolo, Russell Ito, and Stephan Somogyi were responsible for the selection of the best utilities and DAs. Laura Johnson compiled the list of hypermedia

products and assisted Victoria Juarez in paring down the list of accessories. Margy Kuntz and Kristi Coale put together the education-and-training roster. Margy also helped Louise Kohl sort through hundreds of top games. Jon Zilber prepared

the catalog of best music products, and Aileen Abernathy produced the list of the most-deserving clip art. The fonts were selected by Lisa Orsini and Mike Yapp. Ben Templin worked on the selection of templates, and BMUG's Scott Beamer made the shareware picks. Jeffrey Young supplied the roll of top books, and Michael Miley assembled the entire feature.

While we put a considerable amount of staff time and effort into this special report, we managed to pack lots more information into this issue as well — including the latest on the Adobe/Apple/Microsoft font wars, Letraset's sizzling new Studio line, QMS' breakthrough under-\$10,000 color PostScript printer, and a bevy of brand new AppleTalk active-star products. This month's StartUp section provides you with the hands-on scoop on an especially impressive collection of new products that are quickly emerging as standards. And this issue's Lab Reports give you the bottom line on one of the most commonly overlooked product categories: backup.

We're committed to giving you the best of everything. In the coming year, our greatly expanded *MacUser* Lab operation and our new NetWorkShop connectivity lab will provide the very best in product evaluation. We're also substantially beefing up our Power Tools section to let you get your hands on the absolute best productivity-enhancing help. Our StartUp section will be more than tripling the number of reviews to give you the best lowdown on the hottest new products. And our ground-breaking on-line operation will offer the best electronic services available anywhere. Why so much emphasis on superlatives? To paraphrase Somerset Maugham, our taste is simple — we, like you, want only the best, and there's precious little of that.

One final note: We're one big, happy family at *MacUser*, and it's sad when one of the family members departs. Executive editor Louise Kohl is leaving the magazine to join one of the industry's most interesting startups, Aapps. Everyone who was at this year's Boston Macworld Expo heard about this new hardware company, although not everyone saw its product — the crowds around the Aapps booth were too thick. We'll miss Louise, and we wish her the best of luck. ☺

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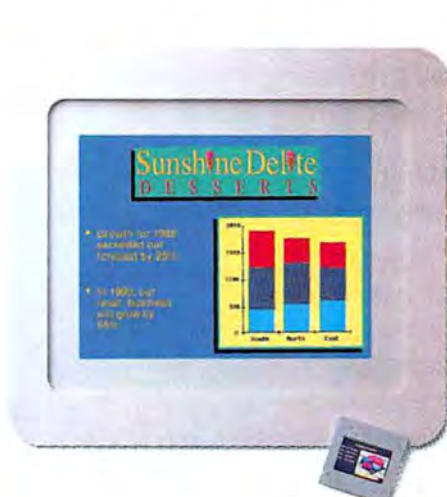
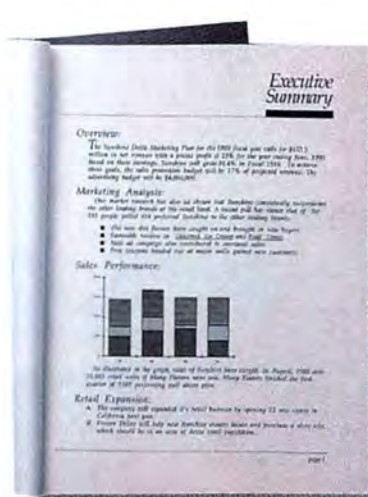
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<b>Setup</b>	(125)	( )	Good	Very Good	Satisfactory	Very Good
<b>Ease of use</b>						
<b>Support</b>	(100)	( )	Very Good	Very Good	Very Good	Very Good
Workmanship	(50)	( )	Satisfactory	Satisfactory	Good	Very Good
Support policies	(50)	( )	Good	Good	Very Good	Very Good
Technical support	(125)	( )	Good	Good	Good	Very Good
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## ROBERT R. WIGGINS

**Y**ou can probably find as many reasons for the success of the Macintosh as there are Macintosh users. But when you look at the rapid assimilation of the Macintosh into the business environment, you can narrow those reasons down to a handful. The reasons you'll be left with include the fast learning curve, low training requirements, and general ease of use, all of which translate almost directly into increased productivity. The Macintosh didn't acquire these traits by chance but as a result of a lot of planning and design.

The foundation of the Macintosh's design is its consistent user interface. The first chapter of the Macintosh programmers'



set of menus in Wingz but was left with some commands that didn't exactly fit anywhere and so concocted the difficult-to-comprehend (and strangely named) Go menu.

Another popular extension to the Macintosh interface is the use of icons in programs, which usually takes the form of an

## Interface Interference

bible, *Inside Macintosh*, is devoted to the user interface and is expanded in a separate volume, *Human Interface Guidelines: The Apple Desktop Interface* (both books are available from Addison-Wesley). The programs that follow Apple's human-interface guidelines are easily assimilated by users who have seen similar interfaces before. Studies show that Macintosh users understand and work with many more programs than IBM PC users do, thanks to the consistent user interface.

The consistency of the Macintosh interface is slowly being eroded, however, by well-meaning but misguided programmers and program designers. It starts innocently — almost justifiably. A program with a lot of features starts getting cluttered menus, so programmers try new approaches to streamline the application. But once this starts, it expands to include new looks and different ways of doing things, often not out of any real need but just to be different. Programmers end up experimenting, which is good for innovation but can be bad for users who have to learn new — and not necessarily better — ways of doing things. According to *Human Interface Guidelines*, "In most cases, consistency should be valued above idiosyncratic cleverness." When too many programs start diverging from the consistent interface, the advantages of buying a Macintosh instead of another computer begin to diminish.

Microsoft is renowned for experimenting with the Macintosh interface. There's its famous Short Menus/Long Menus dichotomy, which gives users different menus based on their preference. Microsoft also once replaced an entire menu, the Font menu, with a dialog box called Format Character (it has since restored the Font menu in Word). Microsoft is notorious for having commands that can be invoked only via the keyboard, with no corresponding menu choice at all. It stopped this particular practice with Word 4.0 — now every command has a menu equivalent — but in what could be called menu madness, it made the menus completely user-customizable, so every Word user can now have a unique set of menus.

icon bar or a small window palette of icons. The icons allegedly represent actions that can be performed and usually duplicate the functionality of menu choices. Icon bars are as likely to add confusion as clarity. The icons are often too small and are difficult to assign meanings to. Many programs fix the location of the icon bar, usually directly under the menu bar. On a large screen, if you have to move the mouse all the way to the menu bar, it's just as simple to pull down a menu as it is to click on an icon — and risk guessing wrong if its meaning isn't clear.

Movable icon palettes, such as PageMaker's, are more useful, especially in large-screen and multiple-monitor situations. Smartcom II has a movable icon bar that is notable because the icons are large, easy to see, and easy to interpret. The use of icons is popular in DAs, which usually have only one menu (if they have menus at all). Here again the problem is the small size of most DA icons, which makes them hard to decipher. Small icons are also a problem in the icon bars that run along the edges of windows, such as the tool palette in MacDraw or the bottom scroll bar in FullWrite.

As the battle rages in the courts

**P**rogrammers are now borrowing concepts from other interfaces such as NeXT's. Legal ramifications aside, this practice confuses new users.



BY ROBERT R. WIGGINS



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over who owns which graphical interface, programmers are borrowing concepts from other interfaces — such as the shaded buttons of the NeXT interface — and bringing them into the Macintosh world. Legal ramifications aside, this is not necessarily a good thing, as new users can be confused about what is and isn't a button and possibly make wrong choices or become frustrated with the machine.

Yes, the Mac interface must evolve and change with the times, but it must do so slowly and allow users to change with it and learn new ways of doing things. Not all changes are bad — the floating palettes introduced by PageMaker, for example, are a welcome exception — but by a wide margin, not all changes are good either. Wholesale or haphazard

**Macintosh programs straying from the standard user interface merely for the sake of being different eliminate many incentives for buying a Mac rather than an IBM PC.**

changes to the interface benefit no one and can slow the acceptance of the Macintosh into the business market. When every program has a complicated and hard-to-learn interface, the Macintosh is lowered at least to the level of the IBM PC. And when that happens, many of the reasons to justify choosing the Macintosh will vanish, sales of the Macintosh will start to decline, and the programs that tried to be different for the sake of being different will cause their own extinction. The free-market system has a very consistent interface indeed.

### PINSTRIP PICKS

Pinstripe Picks have moved and will no longer be found at the end of this column. Watch the StartUp section of the magazine for the new, improved, and expanded Pinstripe Picks — now with mouse ratings!

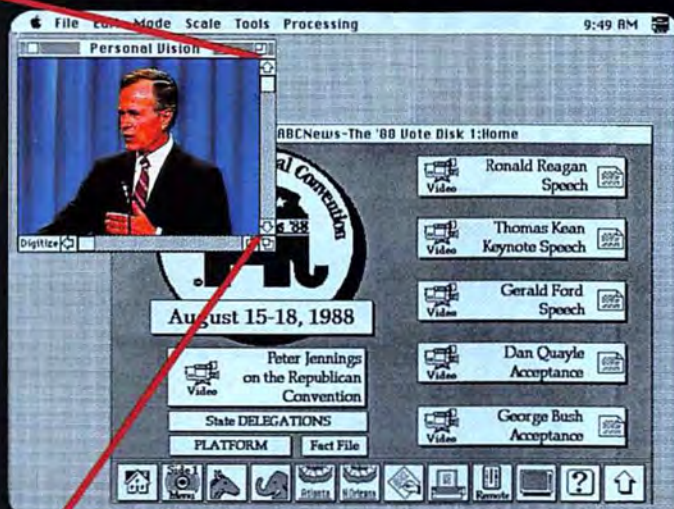
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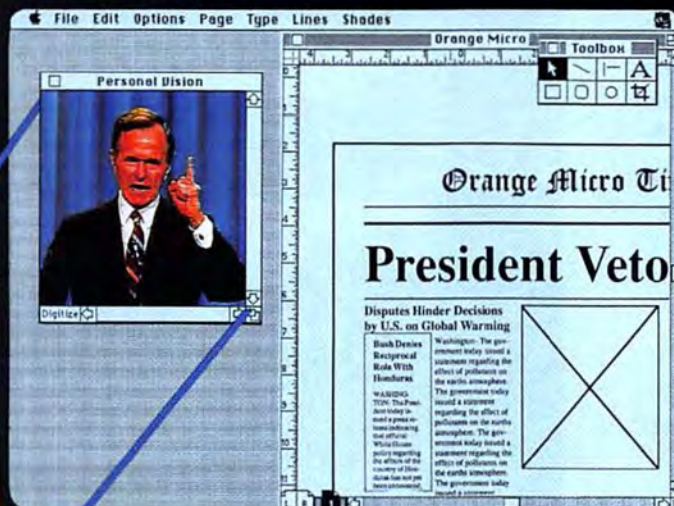
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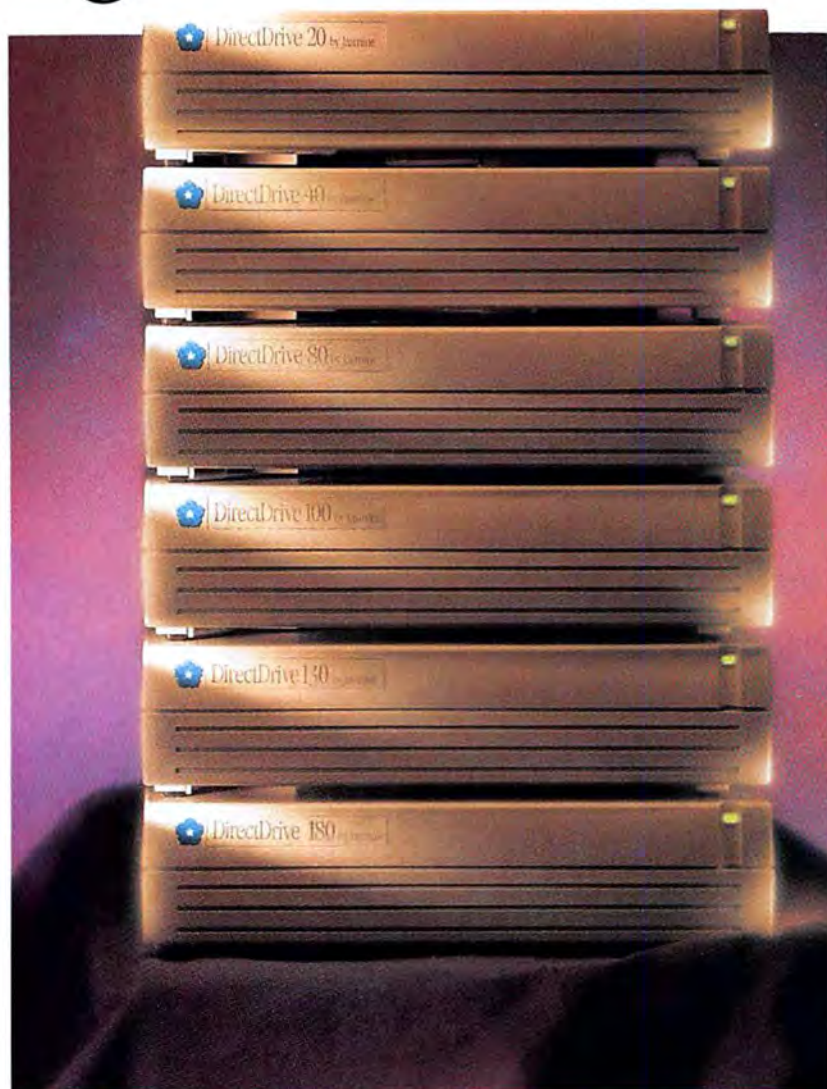
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## The One-Minute Font Manager

**O**ne thing that most dazzles even experienced IBM PC users when they use a Macintosh is the depth and variety of "make it look good" tools in the Mac world. In my last two columns, I've looked at the tools largely responsible for those better-looking documents: downloadable fonts, in a variety simply unknown in the Big Blue world.

Someone out there is sure to scream, "But downloadable fonts are available for PC users too!"

Yes, but . . . And that list of *but*s is long: Not many PC applications support downloadable fonts, very few PC applications automatically download them, type sizes are much more limited and almost always fixed at just a few sizes, the reproduction quality of the bit-mapped fonts commonly used in the PC world (for printing to the PC-standard LaserJets and their clones) is usually inferior to that of PostScript fonts for the Mac, and on and on.

Put simply, the Mac provides a far more congenial environment for producing better-looking documents and for producing good-looking type.

No matter how much someone might quibble with that, one thing is inarguable: There are more, and far better, type-manipulation tools for the Macintosh than for any other micro-computer. So, this month and next, I'm going to look at what's new in type on the Mac and at several font-management and -manipulation tools that take the last step in producing typographically rich documents and presentations. These tools take seconds to install, and you'll need only minutes to learn how to use them to simplify your font-management chores.

One of the most useful Mac type tools is Suitcase from Fifth Generation Systems (Baton Rouge, Louisiana; [504] 291-7221). In version II, this indispensable \$79 utility lets you bundle fonts (and DAs) into kits, or "suitcases."

This has two important advantages for Mac type mavens.

First, it gives you access to as many typefaces as you want, despite the System's usual limit of 500 fonts (actually, 500 font sizes). And second, if you have a lot of fonts, it means you needn't endure those endless scrolls through menus of zillions of fonts unrelated to the work at hand.

The former advantage is not as important as the latter, since not too many Mac users presently bump into the System limit. But if you get into serious graphics work on the Mac and start installing lots of screen-font sizes (as you should), you'll hit that wall before long.

By allowing you to create suitcase subsets of your font library — font collections such as NLTR for your group's newsletter, CORRESP for your correspondence, and SHOW for your Persuasion or PowerPoint desktop presentations — Suitcase II lets you "mount" just the group of typefaces you need for a specific job. And not having to scroll through all the fonts you'd never use in a particular job saves a lot of time and frustration.

A feature new to Suitcase II lets you see the actual typeface, not just its name, in the drop-down menus. It takes a while to

build that typeface menu each time you use it, though, so this new feature can actually slow you down.

The Suitcase people wisely make this feature optional. Hold down the Option key when clicking on the Fonts menu, and you'll see font names listed in their typefaces; omit the Option key, and you're back to full-speed menus with the fonts listed in the usual System (Chicago) typeface.

MasterJuggler from ALSoft (Spring, Texas; [713] 353-4090) also delivers this kind of type-juggling wizardry and was first to show fonts listed in their typefaces. I like MasterJuggler, but either program can meet your needs and Suitcase's approach seems a little tidier to me.

A better way of seeing type names listed in their typefaces is offered by Menu Fonts 2, a \$49 utility from Beyond (Tucson, Arizona; [602] 290-9790). Menu Fonts not only lets you see pull-down lists of font names in their typefaces, but it also does so at top speed. A list of the fonts installed in the System, Suitcase, or Juggler files is stored in RAM, which makes them available almost instantly.

Menu Fonts also lets you see fonts in larger sizes (up to 24 points) and even shows them in color if you wish. But the best

JIM  
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**A**nyone who's scrolled through long font lists will find Menu Fonts' speed-key shortcut a godsend.



By JIM SEYMOUR



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SEYMOUR

thing about Menu Fonts is a speed-key shortcut for jumping to the bottom of a list of font names. Click on the Fonts menu, move the cursor arrow to one of the first font names, and type in the first letter of the name of the font you want while holding down the mouse button. The cursor instantly jumps to that part of the alphabet.

Anyone who's waited through tedious scrolls down to Zapf Dingbats, Univers, Venice, or another font near the end of the alphabetized list will find this feature a godsend.


I forgo the larger-type-size and color-listing features of Menu Fonts, because both slow down an otherwise speedy program. And note that when you change your list of available fonts — by adding new font files to your System Folder or by creating or changing Suitcase or Juggler files — Menu Fonts takes a minute or two to rebuild its font list.

**FontDisplay isn't needed if you use only the LaserWriter ROM fonts.**

Still, Menu Fonts is an exemplary time-saving memory-jogger for those of us who have so many fonts installed that we can't remember just what Janson or Avenir or Belwe really looks like.

Another essential type tool on the Mac is FontDisplay, a stand-alone utility that produces on-screen and printed keyboard maps, lists of installed fonts, and tables of installed fonts in decimal, octal, or hexadecimal notation.

If you use only the built-in LaserWriter ROM fonts, FontDisplay isn't necessary, but you'll need it the minute you start adding fonts, especially oddball ones such as Adobe's wonderful Carta font for mapmaking. Formerly shareware, FontDisplay (version 5.4.4a) is now commercially distributed by author Jeff Shulman (Ridgefield, Connecticut; [203] 792-1521) for just \$50 — a bargain for its new features and more-robust code.

Next time we'll look at three farther-out type-manipulation tools and a fourth one you probably already own that can speed up PageMaker printing. 



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With the MAC-101, you can work the same fast, simple way

But MAC-101 can find them a real job. By using our *MasterStrokes* enhancement software to assign them dozens of mouse or keyboard commands.

Even functions that would otherwise need numerous keystrokes—

"Superb."

That's how *PC Magazine* sizes up the MAC-101. While *MacWEEK* calls it "the most important accelerator you can buy for a Macintosh."

You can buy it for under \$195—software included.

And since it carries a two-year warranty, you'll be enhancing your piece of mind right along with your Mac.

So call 800/826-5398 (in California 800/592-9602) and find out where you can lay your hands on the MAC-101.

Once you do, you won't let go.



## DATADESK

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The MAC-101 lets you execute program commands with a keystroke—without having to reach for the mouse.

your mouse works—without leaving your keyboard.

And turn functionless function keys into a major resource.

It's the only keyboard that works with every model Macintosh.

It's also the only one Microsoft® recommends for *Word*® 3.

The only one Aldus® recommends for *PageMaker*®.

The only one Ashton-Tate® recommends for *FullWrite*® Professional.

And the only one Letraset recommends for *Ready, Set, Go!*™

*Function is as function does.*

Since the function keys on an Apple® Extended Keyboard don't relate to most Macintosh software, their only real function is to take up space.

or mousestrokes—can now be assigned to just one key.

*Feeling is believing.*

Obviously the MAC-101 is great news for every Mac user.

But for IBM® types who are feeling their way around on the Mac, the news is even greater.

Because our keyboard is laid out in a standard configuration that's identical to the IBM PC.

Which means that anyone who's used to an AT or PS/2—or a Selectric®, for that matter—will instantly know the MAC-101 like the back of their hand.

And type on it accurately, with the confident touch that comes only from tactile, positive-response keys.

Please circle 138 on reader service card.



Ours is the only keyboard that's recommended by their publishers for *Ready, Set, Go!*, *Word 3*, *FullWrite Professional* and *PageMaker*.



# START UP

As the year ends, our thoughts turn to what was and what is.

Herewith, our 1989 plaudits and pans. Next we look at the battle in Mac font technology and at Adobe's new font utility, Adobe Type Manager (ATM), which may revolutionize desktop typography. Reviews: Publish It!, a low-priced page-layout package; PixelPaint Professional, a 32-bit descendant of the color paint program; SUM II, a new version of Symantec's utilities package; and Quicken 1.5, for personal finance.

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EDITED BY RUSSELL ITO	

# The Good, the Bad, &

## 1989

was a year of peaks and valleys, from the ridiculous (the continuing look-and-feel lawsuits) to the sublime (the Beatles' holding company, Apple Corps., suing Apple Computer for trademark infringement). Here's a recap of some of the other highlights — and lowlights — of 1989:



▲ The decline in the use of the word *networking*.

▼ The proliferation of the term *groupware*.



▲ The disappearance of silly product names such as "Draw it again, Sam . . ."

▼ The arrival of equally silly product names such as "Hey I Can Print!"



▲ The decline in the number of interCaps in product names.

▼ The use of *empower* as a product name.

The "Truth in Advertising" award goes to Ashton-Tate for billing FullWrite Professional and Full Impact as "A powerful argument for the IIcx."

BY RUSSELL ITO AND JON ZILBER



# the Doubtful: 1989

**The "Aardvark" award in the corporate-name category: Aapps.**



▲ Apple releases a "portable."  
▼ Apple discovers gravity.

▲ Apple-watchers say System 7 will ship by the end of the year.  
▼ IBM says Presentation Manager will be finished by the end of the year.  
▼ Neither company specifies which year.

**The "Aardvark" award for the product name most likely to make us stutter: Aask.**

**The "It's Just as Well Since We Could Never Figure Out Which Letters are Uppercase" award is presented posthumously to MacDEX.**



▲ Apple finally cracks military procurement channels.  
▼ Incapacitated-Disk-Recovery Devices (a.k.a. straightened paper clips) now sell for \$618.37.

▲ Steve Jobs jump-starts erasable optical technology.  
▼ NeXT makes UNIX look sexy.



# NewsLine

## Reports and Analysis

### STRANGE BEDFELLOWS

CUPERTINO, CA — Apple Computer and Microsoft have reached an agreement to swap key font and screen-display technologies. Under the agreement, which was announced at the Seybold Computer Publishing Conference in San Francisco, California, Microsoft will supply Apple with a PostScript clone based on technology the company acquired when it purchased Bauer Enterprises last July, and Apple will send Microsoft its outline-fonts technology. The swap makes Apple more independent of Adobe Systems' PostScript page-description language and is also expected to affect Adobe's attempt to dominate the DOS market. Much of the push for the swap is believed to have come from the OS/2 group within Microsoft, which needed outline fonts to control its screen fonts.

### LETRASET AIMS HIGH

PARAMUS, NJ — In a move targeting the high-end desktop-publishing sector, Letraset USA has announced a family of five integrated products for graphics and design professionals. DesignStudio, ColorStudio, and FontStudio (expected to ship in the fourth quarter of 1989) join the company's already released ImageStudio and LetraStudio as a complete suite of products for desktop publishing. Letraset thus becomes the first publisher to offer both high- and low-end (Ready,Set,Go!) desktop-publishing solutions. DesignStudio and ColorStudio are complete with 24-bit color, and DesignStudio supports professional printing equipment such as the Crosfield prepress system.

### REORG REVISITED

CUPERTINO, CA — In yet another reorganization, Apple is restructuring its U.S. marketing division for the next fiscal year. Under the new plan, 59 positions will be eliminated, but most of those employees will move to other jobs within Apple. The change is being made in order to achieve a better balance between the division's fixed costs and available program funding.



SAN FRANCISCO, CA — Virtually overnight, the state of Macintosh fonts went from uncertain to chaotic at the Seybold Computer Publishing Conference in September, as four major players — Apple, Adobe, Microsoft, and (indirectly) IBM — became embroiled in a heated war of font formats. Both Apple and Adobe had previously announced plans for competing System-level software to produce scalable on-screen fonts (see "Fine Print," September '89): Apple's outline-font technology, due as part of System 7 (to be released in 1990), and the Adobe Type Manager (ATM), slated to ship in October '89.

Neither product will provide a universal solution: The outline-font technology will be free but will work only with fonts in Apple's new SFNT format. ATM works with the established Type 1 font families and adds scaled text-output capabilities to many non-PostScript printers, but it costs \$99 and requires users to purchase a set of fonts for each Mac, rather than for each printer.

The situation became more complex when Apple and Microsoft announced they were swapping software technology (see NewsLine in this issue): Apple would provide Microsoft with its outline-font technology (which Microsoft could use in its OS/2 Presentation Manager operating system for IBM PCs), while Apple would gain rights to a PostScript clone owned by Microsoft. Both technologies would be provided royalty-free to interested third-party developers.

## Hot Type: Rising Font Wars

The software swap hit Adobe — which built its business on the combination of PostScript and fonts — with a one-two punch. Almost immediately, Adobe responded by announcing that it would open up its previously proprietary encryption standard for Type 1 fonts. In the last year, Adobe has licensed this technology to many font vendors, but it will now be free to all comers.

With an open standard, Adobe hopes to retain its position as the premier font supplier for the Macintosh (with the possibility of an OS/2 version of ATM in the wings) by capitalizing on its installed base of 550 different fonts and 22 million typefaces sold. But Adobe faces a serious challenge from Apple, Microsoft, and possibly IBM, which are all officially sanctioning a new standard.

ATM will be the first salvo fired in the font wars, constituting the first product choice Mac users will have to consider. Here are some of the issues and answers surrounding ATM:

### What does ATM do?

ATM is a utility that automatically builds type at any size, based on PostScript outline fonts. Until now, you needed both outline and bit-mapped fonts if you wanted a WYSIWYG representation of type on-screen or on a non-PostScript printer, such as the dot-matrix ImageWriter II, Hewlett-Packard's DeskWriter, or Apple's LaserWriter SC. ATM extends the reach of outline fonts to screen displays and non-PostScript

## Flash Cards

### HyperCard Stacks for Children



**Ali Baa Baa and the Forty Winks** turns bedtime into interactive Hyper-adventure time as you fly away on a magic pillow with a little boy and his toy sheep. Ali Baa Baa

sweeps over desert sands and into the dark and menacing Quiltcombs to encounter the Forty Winks (not-too-menacing dust-bunny villains). \$20 plus \$2 shipping and handling. Radical Sheep Productions, 62 MacDonell Ave., Toronto, Ontario, M6R 2A2, Canada; (416) 534-4749.

**Zoo Friends** is a learning and exploring experience for children in grades 2 through 4. Start on the main zoo map and visit the animals in five exhibit areas. You can learn interesting

facts about the animals and take photos (print pictures), or you can go to the Learning Center and engage in one of six games and puzzles. Shareware

(\$9), available on CompuServe or directly from David J. Combs (\$12), 3517 Germann Court, Lexington, KY 40503.

**The Enchanted Forest**, from Marc Harrison, is another Arithmo math adventure game (see Flash Cards, July '88). To remove an ice spell cast by the evil witch Spellamesse on Castle Nosirrah, you must find the Five Magic Words. Travel through the Enchanted Forest and search for the words by answering



math problems (a spelling version is also available). Math version, \$19.95; two-disk spelling set, \$24.95. Marc Harrison, 14706 O Circle, Omaha, NE 68137.





printers by creating bit maps from the information contained in outline fonts, limited only by the constraints of the application you're using it with.

### Why would you want ATM?

You want ATM if you primarily use Adobe-compatible (Type 1) fonts and want accurate on-screen font representation. You also want ATM if you have a non-PostScript printer and want to print Adobe fonts at any size without encountering the notorious jagged. (The initial release of ATM won't be able to work with third-party fonts that aren't Type 1.) Adobe didn't originally plan to have ATM work with

### How much will ATM cost?

For \$99, you get ATM and outline versions of the four original LaserWriter typefaces: Times, Helvetica, Courier, and Symbol. For an additional \$198 (through the end of 1989 at least), you'll get the other fonts that currently ship with most PostScript printers, including Apple's.

Sounds like a bargain so far, right? But if you want to install ATM on a group of Macs that share PostScript printers, you *also* must buy individual copies of all the fonts you plan to use with ATM — one for each machine — because ATM won't work unless



With Adobe's Type Manager, you get WYSIWYG Adobe Type 1 fonts both on-screen (here with PageMaker and a Radius full-page display) and on non-PostScript printers such as this H-P DeskWriter. The fonts here are Goudy Old Style and Aachen Bold — both at 123 points.

high-resolution non-PostScript printers, because the result is something that, for text, is very competitive with the PostScript printers — and Adobe collects royalties on PostScript printers. But it also means an entirely new market will develop for Adobe fonts: QuickDraw-printer owners.

### What won't ATM do on a QuickDraw printer?

PostScript graphics. And special typographic effects such as character rotation also won't work with ATM until an application has been revised to accommodate it. Adobe has already shown such a version of Illustrator 88, and other applications are expected to follow suit.

you have the outline version of that font in your System Folder.

### Will System 7 make ATM redundant?

Probably not. System 7's font outliner will work only with Apple's new SFNT fonts. ATM also uses less disk space and RAM because it requires only one size for each font in the System. ATM runs (if only just barely) on a 1-megabyte Mac with System 6.0 or later; Apple's comparable outline-font technology will require 2 megabytes.

Although the transition may take some getting used to, the new font-management options add up to greater font flexibility and freedom.

— James Bradbury

## Up to Date

### Changes New and Noted

**NISUS**, version 2.0, now includes footnotes, endnotes, and hyphenation — all of which were noticeably absent from the first version of this mega-word processor. Nisus 2.0 includes color in its style information, so it's possible to search and replace on color, as well as to apply a color to specific passages, and then create a macro to search and extract on that color. \$395; upgrade, free to registered owners. Paragon Concepts, 990 Highland Drive, Suite 312, Solana Beach, CA 92075; (619) 481-1477.

**DOUBLE HELIX II**, version 3.0, is the latest incarnation of Odesta's graphically oriented relational database. Version 3.0's enhancements include performance up to 120 times faster and, in multiuser environments, a query-optimization routine that lets users with simple requests receive their data before users with more-complex ones. Connectivity improvements include support for CL/1, which lets Double Helix users incorporate data from a wide range of mainframe databases. Developers can now also attach macros and sequences to buttons and menus. Single-user version, \$595; multiuser version, \$495; upgrade: single-user version, \$75; multiuser version, \$50. Odesta, 4084 Commercial Ave., Northbrook, IL 60062; (800) 323-5423 or (312) 498-5615.

**4TH DIMENSION**, version 2.0, is finally shipping. The first major upgrade of ACIUS' relational database features significant performance improvements. Overall speed has been increased from 5 to 100 times, depending on the function, and because layouts and procedures are now stored at local stations, multiuser performance speed has also increased. Ease of use and output control have been enhanced with the addition of a Quick Report generator and a Label editor for producing mailing labels. \$795; upgrade, free to registered owners; version 2.0 manuals, \$80. ACIUS, 10351 Bubb Road, Cupertino, CA 95014; (408) 252-4444.



# Tomorrow's Upgrade For Your Mac Is Only \$119.\*

A MacWarehouse Memory Expansion Kit will dramatically increase the power of your Mac. And our fast, reliable, overnight service will have your Kit in your hands tomorrow!

## MORE BRAIN POWER FOR YOUR MAC

Never again will you have to quit your word processor just to answer a question about a spread-sheet. Install extra memory and you can leave your letter open while you refer to last month's sales figures. You can edit those monstrous scanner files with advanced graphics applications or develop your own custom HyperCard stacks. More memory means more power at your fingertips.

## PLUG IN INSTALLATION

Adding memory doesn't require technicians in lab coats. You don't even need a soldering iron. Just open your Mac, slide out the main circuit board, and plug in your memory card. Complete installation instructions are included with each memory kit.

## WHAT DO I NEED?

Our helpful sales and technical staff is standing by to answer any questions and take the mystery out of memory upgrades. Memory cards come with one megabyte on each card and are usually sold in pairs — (2@ \$119).

The chart explains exactly what you need to achieve the desired level of performance.

To upgrade a 4-socket Mac Plus or SE to this amount of memory	Do this: (install in multiples of two only)
2 MB	Remove all four existing 256K SIMMs, install two 1M SIMMs, leave two sockets for future expansion.
2½ MB	Remove only two 256K SIMMs, install two 1M SIMMs.
4 MB	Replace all four 256K SIMMs with four 1M SIMMs.
To upgrade an 8-socket Mac II, Ix, Iicx, or SE30 to this amount of memory	Do this: (install in multiples of four only)
4 MB	Remove all four existing 256K SIMMs, install four 1M SIMMs, leave remaining sockets for future expansion.
5 MB	Keep existing 256K SIMMs, install four 1M SIMMs in remaining sockets.
8 MB	Remove all four 256K SIMMs install eight 1M SIMMs.

To open your Mac Plus or SE, you'll need a specially designed tool — it's available from us as part of a handy tool kit for just \$15.

## WHAT YOU NEED TO KNOW

Memory chips come factory-installed on plug-in cards, called SIMMs (Single Inline Memory Modules). Each one megabyte SIMM card holds eight top quality, memory chips. We carry chips by all the major manufacturers like Texas Instruments, Intel and Samsung. We also carry the full line of Dove memory products.

\*Prices can vary a lot, based on quality, speed and demand. At press time

our price for 1MB, 100 ns Samsung kits is \$119. Please call for the very latest prices and availability. Our sales staff will tell you what you need and help make your choice an easy one.

## SPEED

Do you need 80, 90 or 100 Nanosecond (ns) chips? Nanoseconds are billionths of a second, so an 80 ns chip responds faster than a 100 ns chip. The original Mac used relatively slow 150 ns memory chips. The 68020 processor needs 120 ns (or faster) chip, and the 68030 Macs like the speedier model.

## OVERNIGHT DELIVERY

Place your order by 7:00 p.m. (E), weekdays and we'll deliver overnight for just \$3.00. There's never been a better time to consider a memory upgrade. Call our toll-free number now and tomorrow morning your Mac will be off to a brand new start.

**MacWAREHOUSE**  
**1-800-255-6227**

Mon - Fri 8:00 a.m. - 11:00 p.m. (E)

Weekends: 8:00 a.m. - 8:00 p.m.

Inquiries: 1-201-367-0440

Fax: 1-201-905-9279

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## MACWAREHOUSE

### 30 DAY MONEY BACK GUARANTEE

If, for any reason, you are dissatisfied with your MacWarehouse Memory Kit, you may return it for a full refund within thirty days of purchase. All you have to do is call us for a return authorization number and return the product, postage paid, in its original condition, with the original packaging and documentation.

**ONE YEAR WARRANTY.** MacWarehouse also guarantees its Memory Kits against manufacturer defects for one year from the date of purchase. We will repair the item or replace it at our discretion.

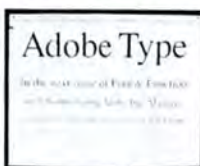
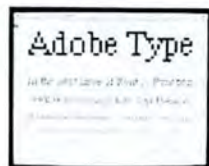


# Introducing Adobe Type Manager From MacWarehouse \$57.

## NO MORE JAGGED EDGES!

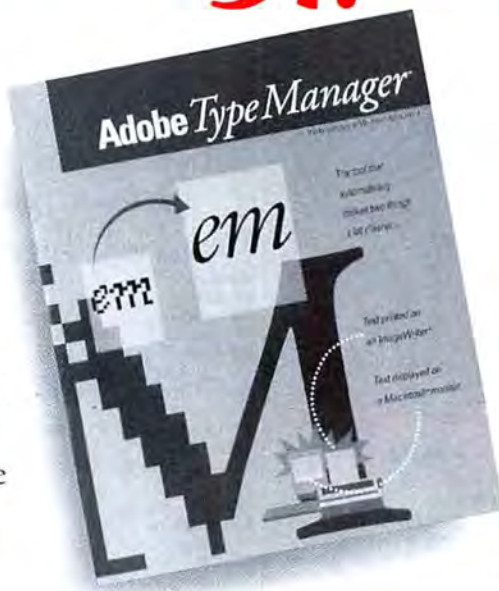
Now you can make the output of your ImageWriter or Hewlett-Packard DeskWriter look just like a laser printer, thanks to this sensational new program. But don't stand in line to pay \$99 at your local software store. Pick up the phone now, and for just \$57 (plus \$3 s&h), we'll rush your copy by overnight delivery!

Believe it or not, Adobe Type Manager solves the problem of jag-



ged edges on screen fonts, too. Now, what you see on your screen will more closely resemble what you get from any PostScript printer — no more 24-point headlines that look like brick piles on screen. It's almost like having Display PostScript on your Mac — for only \$57.

Adobe Type Manager is compatible with virtually every major application, and it's easy to install on any Mac (running System 6 or later) from a Plus to a IIci. Just a few clicks



with your mouse — install it and forget it. Because you'll only need one size of a screen font installed in your System, you can also save megabytes of space on your hard disk. You won't need any additional memory, either.

If you have a non-PostScript laser

printer, like Apple's LaserWriter IISC, Adobe Type Manager will give you PostScript — quality type, without the PostScript expense. And Type Manager includes high-quality outline versions of 13 popular fonts, so it's easy to produce the kind of text you thought only came from a PostScript laser printer.

Our friendly MacWarehouse staff of Mac fanatics is standing by to help with any questions you may have. Remember, nobody beats our fast, dependable, overnight service for Adobe Type Manager or any of the other fine Adobe products.



## MacWAREHOUSE™

### 1-800-255-6227

Mon - Fri 8:00 a.m. - 11:00 p.m. (E)  
Weekends: 8:00 a.m. - 8:00 p.m.  
Inquiries: 1-201-367-0440  
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### Special Offer

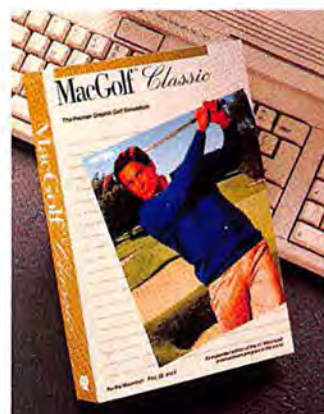
Adobe Type Manager Plus: Available for a limited time only. Contains 22 additional typefaces — Adobe Typeface Packages 1-5 and Helvetica Narrow. (These are not included with Type Manager.) Retail value if purchased separately — \$885. MacWarehouse price \$113.



**OVERNIGHT DELIVERY**  
**ONLY \$3.00**  
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**GUARANTEE**

Many of our products come with a thirty day money back guarantee, if you are not completely satisfied. Ask for details when you place your order.



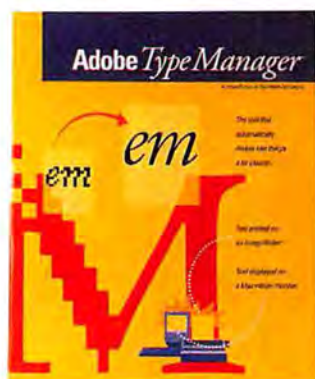
#### MacGolf Classic (XOR Corp.)

MacGolf now offers color and improved screen image detail. This premium version has five enlargement options for close-up viewing, nine practice greens, and a driving range. The game comes with all six available MacCourses. Best of all, you can install this version on a hard disk. (entertainment) \$53.

#### ACCESSORIES

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Toner Cartridges LaserWriter .....	109.
<b>Avery Labels (full line available)</b>	
Color Coded 3.5 Diskette .....	4.
Laser 3.5 Diskettes .....	29.
Laser File Folders .....	6.
Laser Transparencies .....	22.
<b>Basic Needs, Inc.</b>	
HardTop Keyboard Covers .....	15.
HardTop ImageWriter Covers .....	17.
Keyboard Flip .....	6.
Dust Covers - grey Nylon Ripstop	
ImageWriter or LaserWriter .....	12.
Mac Plus and keyboard .....	11.
Mac SE and extd. or reg. keyboard ..	11.
Mac II and extd. keyboard .....	12.
Universal Laser Printer Stand .....	29.
<b>Computer Friends, Inc.</b>	
MacLinker (I/W & I/W II) .....	41.
<b>Curtis</b>	
Computer Tool Kit (52 pc.) .....	49.
Curtis Clip .....	6.
Disk Holder (holds 40) .....	9.
Jewel Surge Suppressors .....	Call.
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MacTilt-SE .....	68.
MacTilt II-RGB .....	75.
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The Macintosh Bible .....	20.
<b>I/O Designs</b>	
Imageware II Carrying Case .....	49.

Macinware Ilcx Carrying Case .....	89.
Macinware Mac II Carrying Case .....	99.
Macinware Plus Carrying Case .....	64.
Macinware SE Carrying Case .....	75.
Monitorware Apple RGB Case .....	79.
Ribbons black .....	4.
Ribbons color .....	5.
<b>Kalmar</b>	
Rolltop Teak disk holder 45 .....	14.
Rolltop Teak disk holder 90 .....	21.
Rolltop Teak disk holder 135 .....	31.
<b>Kensington</b>	
Anti-Glare Filter .....	33.
Apple Security Kit .....	34.
Mac II Stand w/Cable Kit .....	65.
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System Saver .....	64.
<b>Mobius Products</b>	
Fanny Mac QT .....	60.
SE Silencer .....	39.
<b>Polaroid</b>	
Circular Polarizing Filter .....	35.
<b>Read-Write</b>	
CompuDuster .....	29.
Kleen & Dry CRT Pads .....	5.



#### Adobe Type Manager (Adobe)

Gives your ImageWriter or Hewlett Packard and DeskWriter the professional edge by taking the jagged edge off printed text. Allows you to print the kind of high quality outline fonts you thought only came out of a laser printer. Adobe Type Manager also dramatically improves the text displayed on your Macintosh, making it smoother and more legible than you ever thought possible. Adobe Type Manager is completely transparent to you and virtually every major Macintosh application. Works with every Adobe PostScript printer and all Adobe PostScript language fonts. (fonts) \$57

Computer Care Kit .....	45.
<b>Smack-a-Mac</b>	
Smack-a-mac .....	9.
<b>SoundSight</b>	
FastKeys 2.0 .....	35.

#### Macinware Carrying Cases (I/O Designs)

The I/O family of carrying cases protects your Mac and it's peripheral against damage whenever you need to take your Mac on the road. The outer covering is made of luggage quality lightweight woven nylon with web strap reinforcement. Also has an inside padded compartment that can accommodate extended keyboard. The interior is padded to protect the equipment. Comes in Black and Navy. (accessories) Mac SE with extended keyboard \$75. Full line available.

#### MaraThon Racer (Dove)

The MaraThon Racer cache card is a cost effective accelerator solution for the Mac II. MaraThon Racer will give you accelerator-like performance. Maximum processing speed and ultimate system flexibility. Just plug in the Racer and drive through your favorite drawing, spreadsheet or wordprocessing applications. For price and performance, Racer is a lap ahead of the competition. (accelerators) \$162.



#### Targus, Ltd.

Deluxe Plus/SE-XKB Case (black) .....	69.
ImageWriter II Case (black) .....	49.
Mac Plus/SE Case (black) .....	59.

#### ACCOUNTING AND PERSONAL FINANCES

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Payroll 3.5 .....	115.
Payroll PLUS or TimeMinder .....	ea.175.
<b>Bedford (Computer Associates)</b>	
Simply Accounting .....	219.
<b>Brown-Wagh Publishing</b>	
MacLedgers .....	159.
Service Industry Accounting .....	209.
<b>DAC</b>	
Dac-Easy Light .....	42.
<b>Intuit</b>	
Quicken 1.5 .....	36.
<b>Layered, Inc.</b>	
at Once! .....	295.
<b>MECA</b>	
Managing Your Money .....	125.
<b>Monogram</b>	
Business Sense .....	269.
Dollars and Sense .....	81.
<b>Nolo Press</b>	
For The Record .....	29.
WillMaker .....	32.

#### Reality Technologies

WealthBuilder .....	165.
<b>ShopKeeper Software</b>	
Bill-It 2.0 .....	99.
<b>Softview</b>	
MacInTax 89 .....	69.
Taxview 1040 .....	309.
<b>Survivor</b>	
MacMoney 3.5 .....	60.

#### BLANK MEDIA

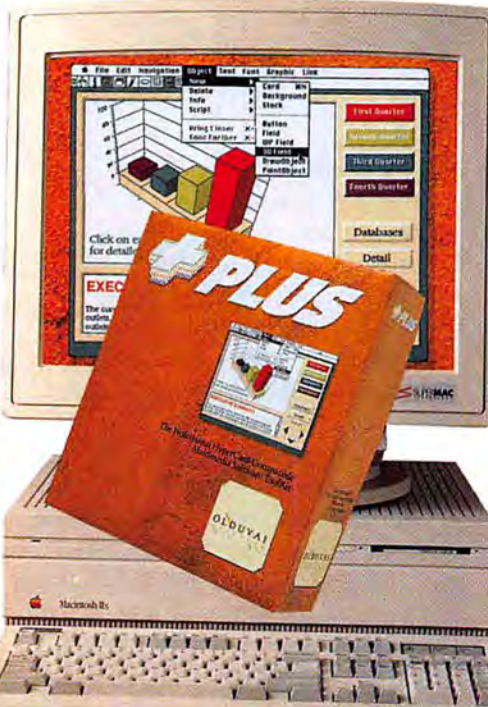
<b>B.A.S.F. made in U.S.A</b>	
DS/DD (box of 10) .....	15.
DS/High Density (1.44 Meg) .....	29.
<b>Peripheral Land, Inc.</b>	
Turbo 40 Cartridge .....	115.
<b>Sony</b>	
DS/DD (box of 10) .....	15.

#### BUSINESS AND PRESENTATION

<b>A Lasting Impression</b>	
ResumExpert (word vers.) .....	49.
<b>Adobe Systems, Inc.</b>	
TrueForm SetUp .....	229.

#### PLUS 1.1 (Olduvai)

HyperCard-compatible Multimedia Software Toolkit that brings you 256 colors, animation, cards and windows of any size, irregularly shaped and word buttons, full text styling and even database fields, to a familiar, HyperCard-compatible environment. Fully programmable using PPL. Use for presentations, education, multimedia, database applications, personal productivity, or just plain fun! Package incl. PPL reference guide, intro. to programming, Online help, external commands, functions and sample stacks. (desktop publishing) \$115.





# Win

# The Mac Portable!



It's here at last. It has all the attributes of your own machine, plus awesome new screen technology, (fifty percent larger than the SE screen), 6 - 12 hour rechargeable batteries and a built in optional 40MB hard disk. Imagine all the power and convenience of your Mac in a 15.7 pound portable package.

And you can win the new Macintosh Portable by entering the MacWarehouse PORTABLE COMPUTER GIVEAWAY.

Your name is automatically entered into the drawing when you order from MacWarehouse. (Or just mail in the Entry Coupon.)

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The New MacPortable  
**1st PRIZE**  
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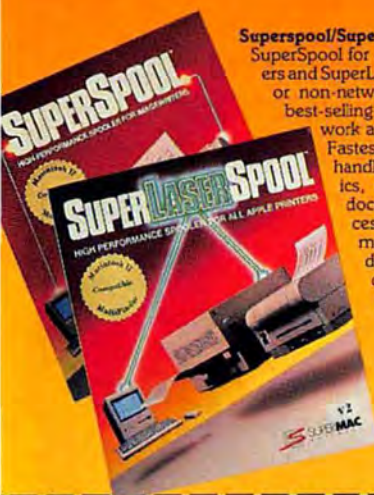


## MiniCad + 2.0 (Graphsoft)

This year MiniCad+ is the people's choice, winning both the U.S. and Australian MacWorld World Class Awards for CAD. For the price of most 2D CAD packages, MiniCad+ provides 2D, 3D, a hotlinked spreadsheet and a programming language. The quality is unsurpassed. Has all the power and ease of use as the "old" MiniCad. Plus you can enter the dimensions of a dialogue box and MiniCad+ will draw the object for you. Change a dimension on a drawing, and the spreadsheet changes accordingly. (cad/cae) \$519.

## Superspool/SuperLaserSpool (SuperMac)

Superspool for direct Connect ImageWriters and SuperLaserSpool for all networked or non-networked Apple printers, are best-selling print spoolers that let you work and print at the same time. Fastest spoolers available. Can handle large and complex graphics, spreadsheet or database documents. Special desk accessory allows you to see and manipulate the print queue; delete documents, re-order documents to another printer. (utilities) Super-spool \$59, or SuperLaserSpool \$89.



## SuperCard (Silicon Beach)

Imports and improves your present HyperCard stacks. Use SuperEdit to create your own stand alone applications that run without SuperCard. Have multiple stacks and types of windows, re-sizeable windows, and color graphics and use different text fonts and styles within a field. Any object can be a button, with an attached script. The paint and draw tools include Silicon Beach's AutoTrace. Bring your applications to life with animation, sound, custom menus and dialog boxes. (hyperware) \$129.



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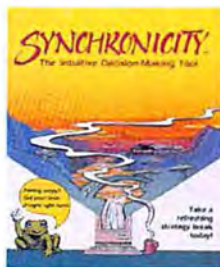
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# FROM MacWAREHOUSE



## Synchronicity

A mood-altering software experience that's powerful and fun. This high-order tool/game helps you make strategic and personal decisions with wisdom based on timing. Great for relationships, skillful negotiating, and stress reduction. Beautiful art, animated waterfall, and Random Frogs™. Easy, effective, and never boring. Enjoy.(education) \$39.



## Managing Your Money

A fully integrated software program addressing every aspect of personal and small business finance. Write and print checks, set up a personal budget, estimate your taxes and more. (finance) \$125.



## Balance of Power 1990

Be the leader of the U.S. or the Soviet Union, your main objective is prevent a war. A scary and accurate simulation of the difficulties of improving your countries influence while maintaining world peace. Remember: if war breaks out, the game is OVER.(entertainment) \$30.



## Laser Printer Stand

Free up your valuable desktop space by raising your printer four inches. This lets you store two extra cartridges, supplies, or just paper work conveniently underneath your printer. It is made of strong durable steel and comes in an attractive platinum design. (accessories) \$29.

PageMaker Color Extension .....	179.
Broderbund	
DTP Advisor .....	47.
Data Translation	
PhotoMac .....	609.
Emerald City Software	
Smart Art I, II, or III .....	ea. 85.
Icom Simulations	
Mackern .....	119.
Letraset	
ColorStudio or FontStudio .....	Call.
ImageStudio .....	275.
Ready, Set, Go! .....	275.
Olduvai	
Plus 1.1 .....	115.
Read-It! 2.1 (OCR) .....	249.
Read-It! Personal .....	139.
Read-It! TS (Thunderscan) .....	79.
Quark	
QuarkStyle .....	175.
Xpress .....	495.
Springboard	
Springboard Publisher II .....	109.
TimeWorks	
Publish-It! .....	239.

## DISK DRIVES/BOARDS

Aristotle Industries, Inc.	
HardPac Mac 20 Meg .....	479.



HardPac Mac 40 Meg .....	755.
HardPac Mac 80 Meg .....	1099.
HardPac Mac 105 Meg .....	1235.
CMS	
MacStack 20 Meg .....	529.
MacStack 30 Meg .....	545.
MacStack 45 Meg .....	625.
MacStack 60 Meg .....	699.
MacStack 80 Meg .....	799.

Cutting Edge	
800K External Floppy Drive .....	149.
SyQuest Removable 45 Meg .....	899.
Under the Mac 20 Meg .....	439.
Under the Mac 30+ Meg .....	499.
Under the Mac 45+ Meg .....	549.
Under the Mac 65+ Meg .....	629.
Under the Mac 80+ Meg .....	739.

Dayna Communications	
Dayna File Single 360K (5 1/4") .....	529.
Dayna File Dual 360K & 1.44M .....	729.

Dolphin Systems Tech	
Integra 20 Meg .....	499.
Integra 30 Meg .....	595.
Integra 40 Meg .....	719.
Integra 60 Meg .....	778.
Integra 80 Meg .....	995.
Flipper 150 Meg Tape Backup .....	1439.

Kenneth Technology	
Drive 2.4 .....	359.
Rapport .....	219.

Mobius	
MultiScreen Video Card .....	315.
PCPC	
MacBottom Hard Drives .....	Call.

Peripheral Land, Inc.	
Infinity Turbo 40 Meg .....	1119.
Turbo Floppy 1.4 .....	359.

Quantum	
Quantum 40 MB Raw Drive .....	525.
Quantum 80 MB Raw Drive .....	869.

RasterOps	
RasterOps Colorboard 264 .....	760.

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FASTKEYS! Quick-Attach Extra Keys

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## Shortcut (Aladdin Systems, Inc.)

Raymond Lau, author of StuffIt, has created another utility that you cannot live without. Shortcut-the ultimate disk utility-appears in every application's OPEN and SAVE dialog with a menu full of vital commands. A find command will locate lost files, you can instantly access frequently used files and folders with a single menu selection, create new folders, rename or delete files/folders, (utilities) \$59

## MicroTech

Elementary Signer .....	49.
Finger Speller .....	29.
The Software Toolworks	
Mavis Beacon Teaches Typing .....	32.
Visionary Software	
Synchronicity .....	39.
Voice & Video Instruction Videos	
HyperCard or Pagemaker 3.0 ....	ea. 35.
Word 4.0 Video Tape .....	35.

## ENTERTAINMENT

Access Software, Inc.	
World Class Leader Board .....	27.
Artworx	
Bridge 6.0 .....	24.
Daily Double Horse Racing .....	19.
GrailQuest .....	19.
Broderbund	
Ancient Art of War At Sea .....	27.
Shufflepuck Cafe .....	24.
Where in the World is Carmen .....	27.
Bulls City Software	
Morality's Revenge .....	36.
Bullseye	
Ferrari Grand Prix or P51 .....	ea 32.
Fokker Tri-plane .....	24.
Centron Software, Inc.	
BlackJack or CrapsMaster .....	ea 27.
CasinoMaster (5 pack) .....	49.
Discovery Software	
Arkanoid .....	26.

## EDUCATIONAL PERSONAL

BrightStar	
Alphabet Blocks 3.01 .....	30.
Talking Tiles .....	27.
Bootware Software	
ResumeWriter Pro .....	58.
Davidson	
Math Blaster .....	27.
Speed Reader II .....	36.
First Byte	
The Dinosaur Discovery Kit .....	27.
The Puzzle Storybook .....	27.
The Rhyming Notebook .....	27.
Fair Tide Technologies	
Navigate! mono .....	199.
Great Wave	
KidsTime 1.2 .....	26.
NumberMaze .....	26.
Learning Company	
Reader Rabbit or Math Rabbit .....	31.

## Macintosh SE/Plus w/Extended Keyboard Carrying Case (Targus)

Pamper your Mac with a Targus carrying case made of Zilicone treated nylon to give you waterproof durability and an impact absorbing high-density foam layer with a soft protective lining for complete protection. Cushioned shoulder pad and handles provide extra comfort and convenience. Plus there's room for everything from your Mac, a hard disk drive, and the extended keyboard to pockets for your mouse, floppies, cables, and pens. (accessories) \$75. Full Targus Macintosh line available.





# MORE FOR YOUR MONEY...

<b>AEC Management Systems</b>	
FastTrack Schedule .....	115.
<b>Aldus</b>	
Persuasion 1.0 .....	375.
<b>Antic Software</b>	
FlexForm Bus.Temp Vol 1 or 2 .. ea.	49.
<b>Ashton-Tate</b>	
Full Impact .....	249.
<b>Avery</b>	
List & Mail .....	79.
<b>Clarix</b>	
MacProject II .....	379.
SmartForm Designer w/Assistant ..	299.
<b>Cognition Technology</b>	
MacSMARTS PRO .....	249.
<b>Cricket (Computer Associates)</b>	
Cricket Graph 1.3 .....	115.
Cricket Presents .....	285.
<b>HyperPress Publishing</b>	
Intelligent Developer .....	225.
<b>Informix</b>	
WingZ .....	259.
<b>Microsoft</b>	
Excel 2.2 or PowerPoint 2.1 .... ea.	249.
The Microsoft Office .....	499.
Works 2.0 .....	185.
<b>Power Up</b>	
Calendar Creator .....	38.
FastForms! .....	89.
<b>Preferred Publishers</b>	
Direct Mail .....	54.
<b>ProPlus</b>	
Wall Street Investor .....	469.
<b>Satori</b>	
Bulk Mailer 3.2.3 .....	78.



**MacEnvelope 4.1 or MacEnvelope Plus (Synex)**  
Envelope and Label printing in one package! **MacEnvelope 4.1**, combines all of the features of envelope and label printing in one easy-to-use package. Import up to 1600 addresses per file. Unique Postal Bar Coding speeds delivery and saves money on postage (for bulk mailers). Over fifty preformatted ready-to-use label and envelope styles. Create/save layouts, print graphics, messages, fonts and color. **\$55. MacEnvelope Plus** saves up to 100,000 addresses per file. Provides list management features such as comments, flags, multi-level sorting and print range. (business) **\$149.**

<b>Softstream International</b>	
Endeavor .....	99.
<b>Symantec</b>	
More II 2.01 .....	249.
<b>Symmetry</b>	
KeyPlan .....	339.
<b>Synex</b>	
MacEnvelope 4.1 .....	55.
MacEnvelope Plus .....	149.
<b>Vertical Solutions</b>	
FastLabel .....	49.

## CAD/CAE

<b>Clarix</b>	
ClarixCAD .....	599.
<b>Generic Software</b>	
Generic CADD Level 1 .....	85.
<b>Graphsoft</b>	
Blueprint .....	349.

## HardPac Mac Drives (Aristotle)

Portable hard disk drive. Store your data and just unplug this compact, self-contained unit, tuck it into your briefcase, and take your data with you. The sturdy injection molded case, shock mounting, and automatic head parking protect the drive while it's in transit. Quantum drive on the 40/80/105mb with access time of 19ms. 20mb uses a Miniscribe with a 65ms access time. A SCSI device with an input/output port for daisy-chaining. (drives) 40 meg **\$755.**

MiniCAD+2.0 .....	519.
<b>Innovative Data</b>	
MacDraft .....	144.
Dreams .....	269.
<b>I.S.I.</b>	
Precision .....	199.
<b>Strata</b>	
StrataVision 3D .....	375.

## COMMUNICATIONS

<b>CE Software</b>	
In/Out (1 to 5 Users) .....	129.
QuickMail 2.0 (1-10 Users) .....	259.
<b>CompuServe</b>	
CompuServe Navigator 3.0 .....	45.
CompuServe Subscription Kit .....	9.95
<b>DataViz</b>	
MacLink Plus w/Cable 4.1 .....	139.
MacLink Plus/Translators 4.1 .....	109.
<b>Dow Jones</b>	
News/Retrieval Membership .....	24.
<b>FreeSoft</b>	
Red Ryder 10.3 .....	52.
<b>Hayes</b>	
Smartcom II 3.1 .....	88.
<b>Infosphere</b>	
Liaison .....	175.
<b>InSignia Solutions</b>	
Soft PC (Mac II) .....	249.
<b>MetaComet</b>	
AccuWeather Forecaster .....	58.
<b>Prometheus</b>	
Acknowledge .....	289.
<b>MacKNOWLEDGE</b>	
Software Ventures	
Microphone II v.3.0 .....	219.
<b>Traveling Software</b>	
Lap-Link .....	83.

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  - C.O.D. orders ship via UPS (Blue Label if you are more than 2 days from us via UPS ground). Charge is \$6 including shipping.
  - Alaska, Hawaii, outside continental U.S., APO/FPO call 201-367-0440 for information.

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## DATABASE SOFTWARE

<b>Acius</b>	
4th Dimension 2.0 .....	549.
<b>AEC Management Systems</b>	
AEC Information Manager .....	409.
<b>Blyth</b>	
Omnis 5 .....	369.
<b>Clarix</b>	
FileMaker II .....	229.
<b>Fox Software</b>	
FoxBASE+/Mac .....	255.
FoxBASE+/Mac MultiUser .....	355.
<b>Microsoft</b>	
File 2.0 .....	125.
<b>Odesta</b>	
Double Helix III .....	349.
<b>GeoQuery</b>	
ProVUE .....	199.
<b>Panorama</b>	
.....	205.

## DESK ACCESSORIES

<b>Casady &amp; Greene</b>	
QuickDEX .....	31.
<b>JAM Software</b>	
Smart Alarms & Appointment Diary ..	49.
Smart Alarms (1 - 4 users) .....	99.
Smart Alarms (5 - 8 users) .....	149.
Smart Alarms (9 - 16 users) .....	199.
<b>Preferred Publishers</b>	
Database .....	72.
Vantage .....	55.
<b>Solutions</b>	
SmartScrap & The Clipper 2.0 .....	45.

## DESKTOP PUBLISHING

<b>Aapps</b>	
MicroTV .....	289.
<b>Aldus</b>	
PageMaker 3.02 .....	389.

## AccuWeather Forecaster

Reliable weather information direct from the nation's #1 weather service. Quickly download national weather data by modem, then display it in easy to read maps, graphs, charts and forecasts. Updates available for every region. Ideal for aviation, boating, construction and travel (communications) **\$58.**



## A+ Mouse

Uses an infrared LED and a reflective plastic mouse pad to determine position. Anyone who works with graphics or CAE/CAD applications will appreciate the convenience and precision of an optical mouse. **\$63. A+ Mouse ADB:** For SE and II connects to Apple Desktop Bus. (input/output) **\$83**



## FastLabel

End label hassles with FastLabel - the revolutionary way to print labels on the Imagewriter and laserwriter. Preformatting instantly creates labels. One step text loading from any commercial database. Save hours of your valuable time! (business) **\$49.**



## Lap-Link Mac

Just connect the Lap-Link Mac universal cable to the PC and the Mac and you're moving files in both directions. Comes with translators, cable, 3.5" and 5.25" diskettes. (communications) **\$83.**





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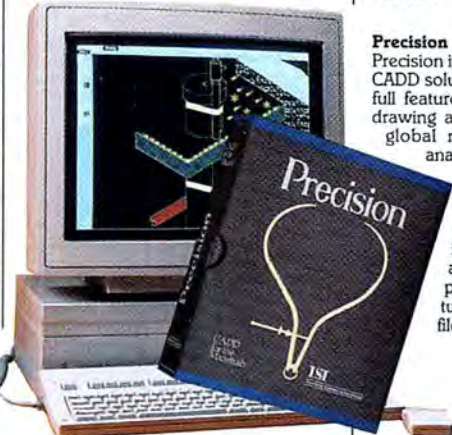
## WordMaker 4.0 (New Horizons)

The new high performance, personal word processor for the Macintosh. WordMaker's intuitive design makes it easy to learn and to use. It has a fast WYSIWYG display, headers and footers for both left and right pages, color capability, multiple document support, a 100,000 word spelling checker, print merge, and more! With WordMaker you can even wrap text around irregularly shaped graphics. It reads and writes MacWrite files for compatibility with other programs. (word processing) **\$69.**

Tetris color version .....	24.
Springboard	
Hidden Agenda .....	36.

## Electronic Arts

Chuck Yeager Adv. Flight Trainer .....	32.
Miles Computing	
Fool's Errand .....	32.
Puzzle Gallery .....	27.
Mindscape	
Balance of Power, Deja Vu .....	ea. 30.
The Colony or Gauntlet .....	30.
Nemesis	
Go Master .....	49.
Joseki Tutor .....	30.
PCAI/XOR	
Lunar Rescue or MacGolf 2.0 .....	34.
MacGolf Classic .....	53.
Road Racer .....	39.
NFL Challenge .....	54.
Spectrum HoloByte	
Falcon 2.0 .....	31.



## Broderbund

Drawing Table .....	75.
TypeStyler .....	129.
Casady & Greene	
Vivid Impressions Vol. 1 .....	67.
Claris	
MacDraw II .....	299.
MacPaint 2.0 .....	99.
Cricket (Computer Associates)	
Cricket Color Paint .....	179.
Cricket Draw .....	167.
Deneba	
Canvas 2.0 .....	169.
Dream Maker	
Cliptures, Business Images .....	69.
MacGallery .....	27.
Electronic Arts	
Studio/1 .....	99.
Studio/8 .....	299.
MacroMind	
MacroMind Accelerator .....	149.
MacroMind Director .....	449.
VideoWorks II .....	175.
Miles	
Mac The Knife (all volumes) .....	32.
Mindscape	
ZING .....	139.
Multi Ad Services	
ProArt: Bus., Sports or Holidays .....	ea. 95.
NuEquation	
NuPaint .....	89.

## Precision (I.S.I.)

Precision is a high performance 2-1/2D CADD solution for the Macintosh. This full featured package offers extensive drawing and editing features such as global replace symbols, in-depth analysis, powerful macro files and complete dimensioning capabilities. Precision at no extra charge includes a complete range of plotter drivers, import/export utilities for DXF and IGES files, 800 phone support and over 1000 architectural and mechanical symbol file kit. (cad/cae) **\$199.**

## The Software Toolworks

Chessmaster 2100 .....	32.
Life & Death .....	32.
The Hunt for Red October .....	32.

## Fonts

### Adobe

Adobe Type Manager .....	57.
Fonts (full line avail.) .....	Call.
Forms and Schedules .....	289.
Newsletters .....	239.
Presentations .....	289.
Textures, Fills, and Patterns .....	139.
Altsys	
Fantastic Plus 2.02 .....	52.
The Art Importer 2.0 .....	89.
Letraset	
LetraStudio .....	275.
LetraFonts (various) .....	ea. 69.
Tactic Software	
ArtFonts Vol.1 or 2 .....	55.
Orange Micro	
Alphabits .....	69.

## GRAPHICS AND DESIGN

### 3G Graphics

Images w/Impact	
Graphics & Symbols 1 .....	52.
Business 1 .....	65.
Adobe	
Illustrator 88 .....	289.
Streamline .....	229.
Aegis Development, Inc.	
Showcase F/X .....	199.
Aldus	
Freehand 2.0 .....	349.

## Paracomp

ModelShop .....	399.
Swivel 3D .....	259.
Select Micro Systems	
MapMaker 4.0 .....	245.
Silicon Beach	
Digital Darkroom .....	249.
Super 3D 2.0 .....	319.
SuperPaint 2.0 .....	128.
SuperMac	
PixelPaint 2.0 .....	229.
PixelPaint Professional .....	399.
Tactic Software	
Art Clips .....	51.
SoundClips .....	49.
Zedcor	
Deskpoint 2.0 .....	65.

## Flex Form Business Templates Volume I & II (Antic Software)

A library of professional business forms. Now you can electronically fill-in business forms and manage business form data quickly and easily. Built in help, automatic field suggestions, and logic make filling in forms fast and error free. On-line database allows quick search and sort on any form-field(s). Import your own company logo or graphics. For data analysis, export form data for use with other programs. **Volume I:** Billing, Collecting, Delivery, Sales, Production, Stock Keeping and General Office. (business) **\$49.** **Volume II:** Accounting, Dispersing, Payroll, Human Resources, Purchasing, and General Business. **\$49.**



## Fokker Triplane Flight Simulator

Flown by the Red Baron, this is the realistic simulation with fun in mind. You'll be able to fly and land this aircraft. No need to spend hours studying complicated instructions. Includes dogfights, bombing, balloon busting, and a bridge. Runs on all Macs. (entertainment) **\$24.**



## SmartOne Modem 2400/1200

Receive Electronic mail, check out stock portfolios or flight reservations. Features include Quicklink, MacNet, CompuServe, auto dial and a two year warranty. (modems) **\$145.**



**SmartScrap & The Clipper 2.0** is a pair of desk accessories used to store and resize graphics. SmartScrap is an improved scrapbook with multiple scrapbooks, scrollbars, a visual Table of Contents, Marquee and Lasso. The Clipper provides cropping and scaling tools to any program you're using. (desk accessories) **\$45**



## FileGuard Extended Edition (A.S.D.)

Protect your hard drives from unauthorized access (including security bypass with a system diskette), copying, and erasure: Applications and files from unauthorized access, deletion, and/or illegal copying; Des'top (including system folder) from alterations by unauthorized users. **\$309.** **FileGuard 2.0:** Protects files from unauthorized access, deletion, and/or illegal copying. Upon saving a new document, FileGuard gives you the option to password-protect it. Encryption is performed automatically upon quitting your application. Opening a protected file is just as easy and automatic. (security) **\$125.**







## Mac-101 Keyboards (Data Desk International)

Features 101 keys including a numeric keypad, a separate T-shaped cursor keypad, Cancel Key, Option and Command keys at both ends, definable function keys, plus scrolling, page control, and zooming keys. Manufacturer's two year warranty. International Versions also available. (input/output) **\$139.**

## HARDWARE AND PERIPHERALS

### Cutting Edge

Two Page Monochrome Monitor .... 999.  
**DEST**  
 Dest PC Scan Plus ..... SPECIAL 699.  
**General Computing Company**  
 WriteMove Ink Jet Printer ..... 585.  
**Magnavox**  
 Color Monitor 14" ..... 599.  
**Microtek**  
 Microtek MSF-300GS Scanner .... 1589.  
**Qume**  
 Crystal Print Publisher ..... 3445.  
**Seiksha America**  
 Seiksha Printer (dot-matrix) ..... 235.

### Two Page Monochrome Monitor (Cutting Edge)

Every Mac SE and II user can now justify the expense of a big screen with the new Cutting Edge 19" Two Page Monochrome Display System. The Cutting Edge Monitor includes the interface card and matches just about all the features of other big screen display systems costing twice as much. It has a flicker-free refresh rate of 70 herz and a high resolution of 72 DPI. Like all Cutting Edge products it comes with a one year warranty and a 30 day money back guarantee. (hardware) **\$999**



**SUM II and SAM** offer safety and security from data loss due to disk failure and viruses. **SUM II** is an award winning disk utility that performs crashed disk and deleted file recovery, backup, encryption for confidential files and folders, and disk optimization. **\$95.**

**SAM** is designed to keep a virus from infecting your Macintosh. SAM automatically scans floppy disks when they are inserted, and will automatically scan your system folder when you start up your Mac. SAM can detect known and unknown viruses and can repair files infected with a known virus. (utilities) **\$63.**

### TimeWorks

HyperWorks Organizer ..... 60.

### Trendware Corporation

HyperTools #1 or #2 ..... ea. 52.  
 XCAL ..... 79.

## INPUT/OUTPUT

### Cutting Edge

CE-105 ADB Keyboard ..... 125.

## MEMORY UPGRADES/ACCELERATORS

### 1 MEG SIMMS

Low Profile, 100ns High Quality Single In-Line Memory Modules for MacPlus, SE, II, IIfx. 2 yr. Warranty. .... **New low price \$119.**

### Dove (full line available)

MaraThon 030 Accelerator ..... 969.  
 MaraThon 030X ..... 999.  
 MaraThon Racer ..... 162.  
 MacSnap 2S .....  
 MacSnap 4S .....  
 MacSnap 8S .....  
 MacSnap 524E ..... 187.  
 MacSnap 524S ..... 239.  
 MacSnap 548S ..... 499.

## MODEMS/FAX

### Abaton

InterFax12/48 ..... 269.

### Best Data Products

SmartOne 2400/1200 ..... 145.

### Hayes

Smartmodem 1200 ..... 295.

Smartmodem 2400 ..... 429.

Smartmodem 9600 (V series) ..... 985.

### HyperDialer (Data Desk)

Connect your Mac to your existing telephone for automatic dialing with Apple's HyperCard. HyperDialer is designed specifically for HyperCard's touch-tone dialing capabilities and works with line business phones. Automatically dials HyperCard, SideKick, Focal Point, C.A.T., SuperCard and QuickDex phone numbers. It requires no modem and no expensive, dedicated phone lines; connects to Mac speaker port - not a precious serial port. (hyperware) **\$26.**



**HyperBible**  
 Put new life into your study of the Bible. Over 100,000 notes and cross references. Easy word and phrase search of scripture. Ready made studies for meetings. Available in the New International Version **\$179.** or the King James Version (hyperware) **\$149.**



### CanOpener

The information retrieval utility for the Mac. Search anywhere, and lets you retrieve just about anything; including text, pictures and sounds. It even locates text inside pictures, and gives you the whole picture! Anything retrieved can be stored in it's library, so the next time you need it, it's just a click away. (utilities) **\$65.**



### New HyperDA Version 1.2

Gives you access to HyperCard stacks within any application or the Finder. Stacks work as they do in HyperCard. Change your stack screen to an expandable, scrollable window for easy access. Add or modify text in the existing text files, while saving new or modified information to the original stack independently of HyperCard. (hyperware) **\$49.**

**Sharp**  
 The Wizard ..... 249.  
**ThunderWare**  
 LightningScan ..... 379.  
 ThunderScan 5.0 ..... 189.

## HYPERWARE

**Activision**  
 Focal Point II ..... 117.  
 Reports for HyperCard ..... 69.  
**Bantam**  
 Complete HyperCard Handbook ..... 23.  
**Beacon Technologies**  
 HyperBible International Version ... 179.  
 HyperBible King James Version .... 149.  
**BrainPower**  
 ArchiText ..... 199.  
**Bright Star Technology**  
 HyperAnimator 1.5.1 ..... 99.  
**DataDesk International**  
 HyperDialer ..... 26.  
**ICOM Simulations**  
 HyperTMON ..... 59.  
**MicroMaps**  
 HyperAtlas ..... 59.  
**Power Up**  
 HyperTutor ..... 29.  
**Silicon Beach**  
 SuperCard ..... 129.  
**Softstream International**  
 HyperHit ..... 125.  
**Springboard**  
 Family Matters ..... 28.  
**Symmetry**  
 HyperDA 1.2 ..... 49.

**DataDesk Intl.**  
 Mac 101 Keyboards ..... 139.  
**Kensington**  
 New Turbo Mouse ..... 109.  
**Koala**  
 MacVision 2.0 ..... 219.  
**Kraft**  
 ADB Joystick Premium III (SE&II) .... 51.  
 QuickStick ..... 39.  
**Kurta**  
 IS/ADB Tablet 8 1/2 x 11 ..... 255.  
**Mouse Systems**  
 A+ Mouse (SE/II) ..... 83.  
 A+ Mouse (512/Plus) ..... 63.  
**Summagraphics**  
 Bit Pad Plus ..... 325.

## LANGUAGES

**Digitalt, Inc.**  
 Smalltalk/V MAC ..... 129.  
**Microsoft**  
 QuickBasic ..... 65.  
**Shana Corporation**  
 Inside Out ..... 369.  
**SmethersBarnes**  
 Prototyper ..... 189.  
**Symantec**  
 THINK'S C 4.0 ..... 159.  
 THINK'S Lightspeed Pascal ..... 85.  
**Zedcor**  
 ZBasic 5.0 ..... 95.



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#### Omnibus 5 (Blyth)

A comprehensive program for developing business data management applications. It is a multi-user, multi-platform database management system for the Macintosh and IBM compatible personal computers. SQL connectivity allows Omnibus 5 to connect to the VAX or mainframe. Omnibus 5 supports full color graphics producing totally "Mac-like" applications. Omnibus Hypercard access allows HyperCard stacks to read and write to Omnibus 5 data files in both single and multiuser installations. (database) \$369.

Esthetic Engineering	
Music Mouse	49.
Farallon Computing	
MacRecorder (records sound)	164.
Screen Recorder	129.
First Byte	
SmoothTalker	33.
Great Wave	
Concertware+MIDI 4.0	78.
HIP Software	
Harmony Grid	59.
Intelligent Music	
OvaTune	95.
Passport Designs	
Master Tracks Pro 3.0	259.
NoteWriter	325.
Passport MIDI Interface	89.
Primera Software	
Different Drummer	59.
Repertoire	
Music Publisher	375.
Resonate	
Listen 2.0	62.

### NETWORKING PRODUCTS

Connect Inc.	
MacNet	47.
Dove	
FastNet SCSI	749.
FastNet III	375.
FastNet SE or SE/30	ea. 375.

#### Checkwriter (Aatrix)

Enter recurring transactions and it reminds you to write checks and enter deposits. Print your own ledgers, debits/credits and tax sheltered transactions. Unlimited number of checking accounts and transactions per account. Lets you design your own check and stub, and will write them too! \$37.

**Payroll Plus**  
Made for larger companies; will handle many employees, plus special accounting for restaurants, contractors, and commissioned sales people. Can manage payroll from up to 10 income sources. Prints checks, itemizes, accumulates O/T and can prorate sick / vacation pay. (accounting) \$175.



#### Sound Clips (Tactic Software)

Why prepare a presentation only half-way? Add high-quality professional sounds. Over 115 sound effects in each Vol. for a wide variety of uses. Bring MultiMedia presentations closer to the main stream of Macintosh users. **Sound Clips Vol 1** includes 118 sounds, airplanes, wind, coughs, modem dial, fax, laugh, cry, adding machine, hacksaw, etc... **Vol. 2** includes 122 sounds, glass break, baby cry, dog bark, hammer, cork pop, sax, seas, night train, taps, door open/close, etc... (graphics) \$49.



#### Kent Marsh

MacSafe or NightWatch	ea. 87.
QuickLock	57.
Mainstay	
AntiToxin	59.
Symantec Corporation	
S. A. M.	63.

### SPELLING/DICTIONARY THESAURUS CHECKERS

Deneba Software	
BigThesaurus	59.
Spelling Coach Pro	115.
Electronic Arts	
Thunder II	52.
Lexpertise	
MacProof 3.2.1	115.
Microlytics	
Electronic Word Finder	75.
Word Finder 2.0	36.
Sensible Software	
BookEnds or Sensible Grammar	53.

### STATISTICAL ANALYSIS

Abacus Concepts	
StatView II	295.
StatView SE+Graphics	225.
BrainPower	
StatView 512+ (requires 512k)	149.
D2 Software	
MacSpin 2.0	189.

Prometheus	
ProModem 2400 SE Int.	209.
ProModem 2400M	199.
Supra	
Supra Modem 2400	139.
US Robotics	
Courier 9600 Modem	699.

### MUSIC AND SOUND

Altech	
MIDI Interface	59.
Bogas Productions	
Super Studio Session 2.0	69.
Coda	
Finale	479.
MacDrums	31.
Perceive	50.
Electronic Arts	
Deluxe Music Construction 2.5	85.

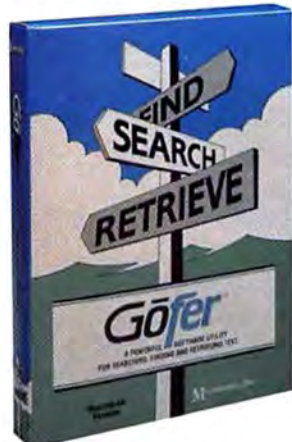
Farallon	
Timbuktu 3.0	99.
Timbuktu Remote 1.0.1	195.
TrafficWatch	135.
PhoneNET PLUS	35.
PhoneNET Repeater	325.
PhoneNET Star Controller	1095.
Microcom Software	
Carbon Copy Mac	119.
Shiva	
NetBridge	339.
NetSerial X232	279.
TOPS	
NetPrint	119.
FlashBox	125.
FlashCard	159.
Repeater	129.
Teleconnectors	29.
TOPS	145.
TOPS DOS	115.

### SECURITY AND VIRUS PROTECTION

ASD Software, Inc.	
FileGuard 2.0	125.
FileGuard Extend (office 5-pak)	309.
TWINS	109.
HJC Software, Inc.	
Virex 2.1	59.

#### Casino Master (Centron)

Become a Master of Casino Gambling! Five separate casino games include **Blackjack Ace**, **Crapsmaster**, **Roulette Master**, **Pokermaster**, and **Baccarat Master**. Exact table simulation, betting, bankroll, stored win/lose statistics and manual included. Now in dazzling color on the Mac II!! Recommended and used by professional gamblers! (entertainment) \$27. each game or 5 game Casino Master Package for \$49. or Deluxe Mac II color version for \$55.



#### Gofer (Microlytics)

Gofer 2.0, a powerful software utility for searching, finding and retrieving text, is now 50% faster. Works with bestselling word processors, DTP files and utilities. Gofer retrieves text from a public file on popular file servers without needing file or folder names. With Gofer you can quickly access scanned information from OCR applications. (utilities) \$47.



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**BackMatic (Magic Software)**  
Because the most important work is the work in progress, backing up once a week may not be enough. BackMatic will backup your hard drive every day when you select Shut Down. BackMatic will copy your work to floppy, hard drive or network server. If you never ShutDown, BackMatic's automatic timer will do backups at preselected times. Even if you already own a traditional backup program, you'll still want BackMatic to help backup between backups. BackMatic - fast, simple and totally automatic. (utilities) \$50.

**Odesta**  
Data Desk Professional .....289.  
**Paracomp**  
Milo .....159.  
**Select Micro Systems, Inc.**  
Exstatis .....219.  
**Wolfram Research**  
Mathematica (SE) .....450.

## UTILITIES

**Abbott Systems**  
CanOpener .....65.  
**Affinity**  
Tempo II .....79.  
**Aladdin Systems Inc.**  
Programmer's Assistants .....99.  
Shortcut .....59.  
**ALSoft**  
DiskExpress II .....Call.  
Font/DA Juggler .....42.  
MultiDisk .....49.  
Master Juggler .....64.

**NEW Version 1.5! Quicken (Intuit)**  
Forget financial hassles with Quicken, the world's #1 selling finance software. It's the absolute fastest, easiest way to do your personal or small business bookkeeping. Quicken slashes the time you spend on your finances by automating all your routine financial tasks, from printing recurring checks without typing, to providing detailed tax deduction summaries instantaneously. Flexible, comprehensive financial reports on screen or on paper, income and expenses by category, budget vs. actual comparisons, and more. (finance) \$36.

Intuit

Quicken



<b>Berkeley System Design, Inc.</b>	
Stepping Out II .....	50.
<b>CE Software</b>	
DiskTop 3.0.2 .....	32.
QuickKeys 1.2 .....	65.
<b>Caere</b>	
OmniPage .....	555.
<b>Central Point Software</b>	
Copy II Mac (with MacTools) .....	24.
PC Tools Deluxe For Mac .....	46.
<b>Dantz Development</b>	
Retrospect .....	155.
<b>Emerald City Software</b>	
Lasertalk 1.0 .....	159.
<b>Fifth Generation</b>	
FastBack II or DiskLock .....	ea.108.
PowerStation 2.5 .....	34.
Pyro .....	15.
Suitcase II .....	45.
<b>GO Technologies</b>	
MacTree Plus .....	46.
<b>ICOM Simulations</b>	
On Cue .....	35.
<b>Insight Development</b>	
MacPrint .....	79.
<b>Magic Software</b>	
AutoSave II .....	29.
BackMatic .....	50.
POWERIcons or POWERmenus ea.	39.
<b>Mainstay</b>	
Capture 2.0 .....	49.
<b>Microlytics</b>	
GOfer .....	47.
<b>Olduvai</b>	
ClipShare .....	139.
MultiClip .....	51.
<b>PCPC</b>	
HFS Backup 3.0 .....	54.
<b>Peripheral Land, Inc.</b>	
TurboBack .....	55.
TurboCache or Turbo Spool .....	ea. 73.
TurboOptimizer .....	39.
<b>Preferred Publishers</b>	
Exposure .....	54.
<b>SuperMac</b>	
DiskFit 1.5 or SuperSpool 5.0 .....	ea. 59.
Sentinel 2.0 .....	89.
SuperLaserSpool 2.0 .....	89.
<b>Symantec Corporation</b>	
SUM II .....	95.
<b>Tactic Software</b>	
FontShare 2.0 .....	149.
<b>Williams &amp; Macias</b>	
DiskFinder .....	27.
myDiskLabeler .....	34.
StickyBusiness 1.07 .....	89.
<b>XTree Company</b>	
XTree Mac .....	52.

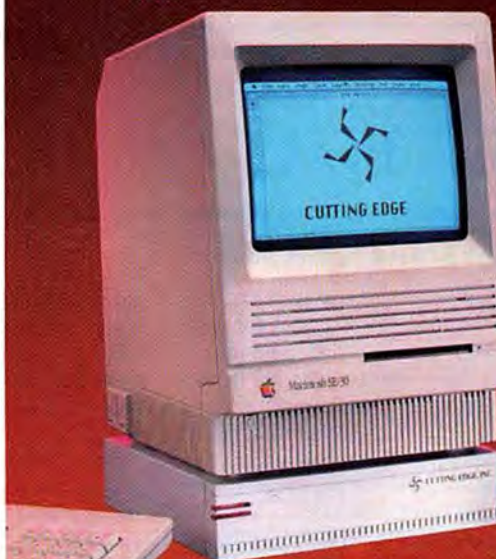
## WORD PROCESSORS AND OUTLINERS

<b>DeltaPoint, Inc.</b>	
MindWrite 2.1 .....	95.
<b>Ashton-Tate</b>	
FullWrite Professional .....	259.
<b>Claris</b>	
MacWrite II .....	185.
<b>Microsoft</b>	
Word 4 .....	249.
<b>New Horizons Software</b>	
WordMaker .....	69.
<b>Niles &amp; Associates</b>	
End Note .....	75.
<b>Symmetry</b>	
Acta Advantage w/DA .....	65.
<b>T/Maker</b>	
WriteNow 2.0 .....	109.
<b>WordPerfect Corp.</b>	
WordPerfect .....	189.
<b>Working Software</b>	
QuickLetter .....	73.

**CONTEST RULES** 1. Entries must be received on or before 4/30/90. 2. Winners selected in random drawings by attorneys for Micro Warehouse Inc. (MWH), whose decisions are final. 3. Mac Portable Computer prize subject to availability. MWH reserves the right to substitute wholesale cash value up to \$6,000. 4. Winners responsible for taxes. 5. Odds of winning depend on number of entries. All prizes will be awarded. 6. MWH will announce the winners on or around 5/31/90. Winners notified by mail. Dates subject to change at the discretion of MWH. If unable to contact any winner, an alternate will be selected by random drawing. 7. Contest open to US residents, except where prohibited by law. Employees of MWH and suppliers not eligible. 8. Prizes: one Mac Portable with 40MB hard disk and 150 software and media prizes.

Please circle 31 on reader service card.

# STOP PRESS

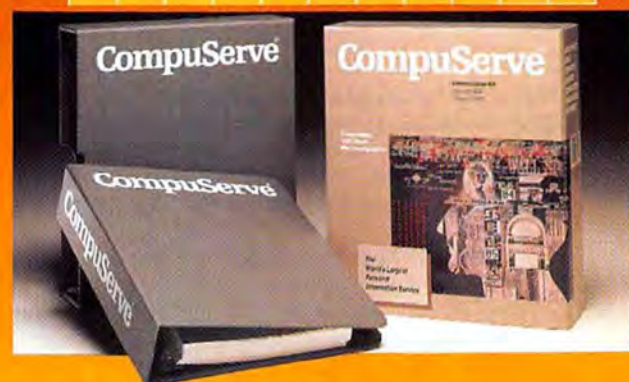


## NEW! Price breakthrough! Under the Mac Drives (Cutting Edge)

The Cutting Edge Under the Mac Drive hard disk drives are quiet and reliable with access times down to 20 milliseconds making it almost three times faster than most. Push button external SCSI address switch and removable SCSI terminators allow easy daisy chaining up to 7 SCSI devices. Sizes available 20 meg to 80 meg (disk drives) 20 meg only \$439. 30+ meg only \$499. 45+ meg only \$549. 65+ meg only \$629. 80+ meg only \$739.

## 800K Drive

The Cutting Edge 800K drive's attractive styling, quiet performance, and high-tech reliability make it our most popular floppy drive. Features an LED light to indicate disk access and a hinged door over the disk insertion slot to keep the mechanism clean. One year manufacturer's warranty. (disk drives) \$149.



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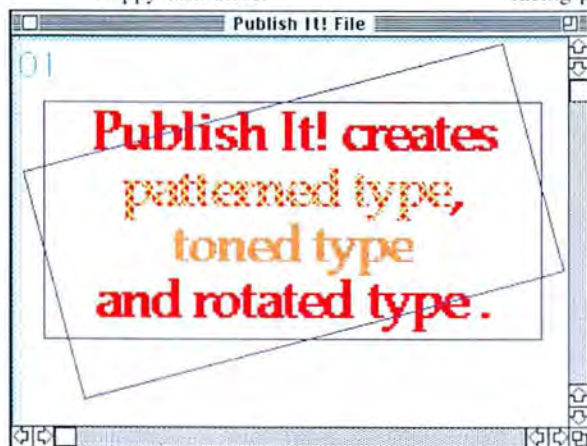


## DESKTOP PUBLISHING

# Publish It!

**Page layout on Mac Pluses and SEs can be fast, painless, and full-featured.**

 Publish It!, a new page-layout program that includes tools for word processing, drawing, and painting, is aimed at users who've been left behind by the giants, such as PageMaker. And it's almost a bull's-eye: Publish It! is fast, opens multiple documents simultaneously, and even runs on a 512KE with one floppy-disk drive.



**Publish It! is a page-layout package aimed at users who have modest systems but not modest needs. This text has been rotated counterclockwise 15 degrees, although the type doesn't display that way. The rectangle shows how the text will slant when the document is printed on a PostScript printer.**

**WHAT IT IS** Publish It! uses a frame metaphor similar to Ready,Set,Go!'s and includes several features not found in most high-end packages. For example, it rotates text in 1-degree increments, performs vertical justification of text, and creates patterned and toned type in 1-percent increments. The program comes with more than 70 well-designed layout templates and fine documentation. The *Quick-Start Mini-Manual* helps amateurs produce professional-looking results in short order.

Text and graphics are contained in frames. You can draw text frames or have Publish It! put them onto the page to your specification. A linking tool enables text to flow from one column to the next automatically. Frames created on one page

can be replicated either on the next page or on all subsequent pages in a document. However, you cannot specify a range of pages for the replication, nor can you have Publish It! automatically link the text frames.

Page magnifications from 12 to 800 percent are available, in single-page, facing-page, and editable thumbnail views. There's also a Scratch Page option — analogous to PageMaker's pasteboard — where you can store elements or move them between pages. In any view, you can select multiple objects and then move, scale, or rotate them as a group.

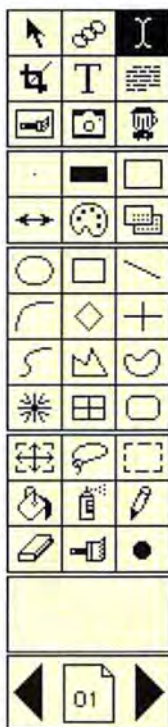
Publish It! uses three master pages for repeating elements — one for left-hand pages, one for right-hand pages, and one for both sides of a page. You can create V-shaped, pyramid, or slanted margins, and you can make text flow around or inside irregularly shaped graphics. Type sizes, kerning, and leading (automatic or manual) can be selected in .004-point increments. You can stretch or condense text, shift the baseline, and print pages with binding gutters.

Publish It! has a speedy built-in word processor, and it imports documents created in MacWrite (but not MacWrite II), Word (version 3.0 family), Works 1.1, WordPerfect, and WriteNow as well as ASCII text files. The tabs (left, right, center, and decimal) support selectable leaders (dots, dashes, and underscores), and the program has a 160,000-word spelling checker and a 240,000-word thesaurus. The spelling checker works interactively or in Batch mode and has a customizable user dictionary. The Find & Replace dialog box lets you change type sizes, styles, patterns, and tones in addition to text strings; it works on either a single story or all stories in a document.

The Font Substitution command lets you make documentwide font changes.

**HOW IT WORKS** In spite of its good features, Publish It! does have some serious limitations: You can export text only via the Clipboard, it doesn't support style sheets (although Paragraph Tags provide some formatting capabilities), and the Undo command doesn't work for most text operations. (Version 1.2, which is due out by the end of 1989, will offer automatic creation and linking of text frames, improved text-export capabilities, a Word 4.0 filter, and an enhanced Undo command.)

Publish It! also has paint and draw tools that let you create and edit bit-mapped and object-oriented graphics, including high-resolution TIFF images. Importing an image automatically places it on-screen in a frame, ready for sizing, cropping, or editing. To create a bit map within Publish It!, you must draw a bit-map frame within which the paint tools can work, which is similar to working with Canvas.



**Publish It!'s tool palette has six sections (from top): main tools, current settings, draw tools, paint tools, size and position, and page indicator.**

## Get Info

### Publish It! ★★★★★

**List Price:** \$395.

**Published by:** Timeworks, 444 Lake Cook Road, Deerfield, IL 60015-4919; (312) 948-9200.

**Version:** 1.1.

**Requires:** System 4.2 or later (System 6.0 family preferred); 800K drive; hard-disk drive recommended.

**Application Size:** 245K.

**Compatibility:** Mac 512KE or later.



You can also make any object or text merge into an underlying bit map for dot-by-dot editing. Publish It! creates hairlines and thin lines and has a palette of other line thicknesses, but you can't specify thickness by points.

Color is Publish It!'s weakest point. It can import color PICT2 images, but it doesn't support any other color or gray-scale graphics. To simulate grays, you can import 1-bit TIFF halftones. Any frame can be assigned one of eight colors, and spot color separations can be printed. Color applies to everything within a frame, so you can't assign a different color to a few words within a text frame. Publish It! doesn't assign gray-scale values to different colors, so black type on a solid-color background appears as black on black if your screen is monochrome or if you print a composite proof on a black-and-white printer.

A few other areas also need improvement. The program has many hierarchical menus, which are difficult to traverse, and more keyboard equivalents would be helpful. Rotated text should display that way on-screen. Rulers should show the outer dimensions of an object for dragging, not just the current cursor position. The Object Specifications dialog box rounds all entries to two decimal places, which is not accurate for eighths (.125) or sixteenths (.0625) of an inch. The Duplicate command, which places an additional copy of any selected object(s) on-screen, should permit specification of multiple copies and their positions relative to each other. I've also encountered some erratic problems in printing documents with complex PICT graphics.

Overall, however, I find Publish It! impressive. It provides more of the tools I need regularly than do PageMaker or Ready,Set,Go!, it's easier to use than QuarkXPress, and it's fast. It's not designed for sophisticated color work, but anyone doing basic publishing in black-and-white or with spot color (especially on a 1-megabyte Mac) will find it efficient and capable.

—Darryl Lewis



## National Macintosh Computer Society



DECEMBER, 1989 • VOLUME 4, NO. 12
\$2.00

While the Mac II, Ilex and SE '30 get more press coverage, most desktop publishers use a 1 meg Plus or SE with limited disk space and impatience for the slow performance of top DTP packages. Publish It!, TimeWorks' entry into the Mac DTP field, takes aim at those users, and hits the bulls-eye! It's fast, opens multiple documents simultaneously, and even runs on a 512K with one floppy drive.

Publish It!'s feature list is a typesetter/designer/artist's dream. For example it rotates text in 1° increments, performs vertical justification and creates patterned and toned type in 1% increments. It comes with plenty of well designed layout templates and fine documentation, including a Quick-Start Mini-Manual, so that even amateurs can produce professional looking printed material in a short time.

Besides standard page layout tools, separate point and draw tool palettes permit creation and modification of bit-map and object oriented graphics within Publish It! The paint tools can edit high resolution TIFF images. Page magnifications from 12% to 800% are available in single page, facing page and thumbnail view. Inches, centimeters, picas, pixels and points are supported as ruler measures.

As with Ready-Set-Go and XPress text and graphics are contained in frames. You may draw text frames or have Publish It! put them on the page to specification. A linking tool permits text to flow from one column to the next automatically. Text or graphic frames you've created one page can be replicated either to the next page, or to all subsequent pages in a document. You cannot specify a range of pages for the replication, nor can you have Publish It! automatically link the text frames.

Publish It! imports documents created in current versions of MacWrite, Word, Works, WordPerfect, and WriteNow as well as text files. The speedy built in word processor should not be overlooked. While creating text frames for typing is awkward, the ability to do word processing, page layout and graphic manipulation within one application may make it worthwhile. The left, right, center and decimal tabs support selectable leaders (dots, dashes, etc.), and there is a 160,000 word spell checker and a 240,000 word thesaurus. The spell checker works interactively or in batch mode, can guess the correct word, and accepts new words in a user dictionary. The Find & Replace dialog will find and change type sizes, styles, patterns and tones in addition to text strings within either a single story or all stories in a document. Exporting text is accomplished only via the clipboard, and style sheets are not supported. Unfortunately, the Undo command doesn't work for most text operations.

The unusual master page implementation uses 3 master pages, one for the left side repeating items, one for the right, and one for both sides. You can create V-shaped, pyramid or slanted margins and flow text around or inside irregularly shaped graphics. Type sizes, automatic or manual kerning and leading are in 0.04 pt. increments. You can stretch or condense text (one of my favorite features in XPress), shift the baseline, and print pages with binding gutters.

There is no need to draw frames for most graphics. Importing them automatically places them on screen in a frame, ready for sizing, cropping or editing. Bit-maps created within Publish It! require that you draw a bit-map frame within which the paint tools work, similar to Canvas. You can also make any object or text merge into an

Publish It!  
Desktop  
Publishing  
Software  
from




This sample page demonstrates two of Publish It!'s unusual draw tools, the diamond tool and the radial-spokes tool. Varying tone values were assigned to each letter in "Publish It!" in the headline, and then the entire block of type was rotated. The type is horizontally justified by a combination of word spacing and letterspacing.

## UTILITIES

# SUM II

**Symantec's essential utilities for recovering data from crashed hard disks just got better.**

 Symantec Utilities for Macintosh (SUM) has been revised and expanded to SUM II. The additions include BackUp, a module based on Redux, the best backup program around; and Encrypt, a new encryption module. The original parts of SUM have had their interfaces improved, some functionality added, and some bugs fixed.

Although the idea of getting all your necessary utilities in one package is nice, you'll never get all the best utilities this way. But the one operation you should care about is data recovery. SUM is still the best in the business at it — and SUM II is even better than the earlier version. Every Mac equipped with a hard-disk

drive should have its own copy of SUM II. My opinion of SUM's other functions is less than glowing, but data-recovery prowess is the reason why the utility remains top-rated.

The changes to the one module that really counts, Disk Clinic, are substantial in this revision. The overall look and feel of the interface, which was justly criticized in the first version, is much better, but it's by no means perfect. Recovery of selected files is much easier, and the Quick Fix feature can repair minor volume-directory damage (an ability that has been available in several other programs for quite a while). The earlier version sometimes had difficulty recovering

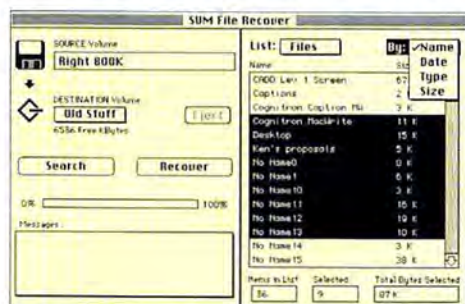


100

files larger than 785K; this version splits large files over several floppies.

The Recover module is best used for recovering crashed or accidentally initialized disks—it has no peers in this. For the recovery of deleted files, you'll do better with Complete Undelete, a new program from 1st Aid Software.

SUM II's Partition module is still inferior to SilverLining. I don't trust any encryption programs (preferring physical removal for best security), and although the module here seems OK, I wouldn't use it. The BackUp module is a stripped subset of Redux. It works and



**SUM II's file recovery is still the best around. The files in the scrolling list were recovered after they'd been thrown into the trash. Because the Floppy Recover option was used, the Type and Creator codes and filenames were not recovered, although the data was. The missing information can be reinserted manually, with SUM II's Get Info command.**

it's reliable, but I'd still get Redux.

TuneUp optimizes your hard disk, ridding it of fragmentation (and at the same time removing your ability to recover

## Get Info

SUM II 

**List Price: \$149.95.**

**Published by:** Symantec, 10201  
Torre Ave., Cupertino, CA 95014;  
(408) 253-9600.

Version: 2.0.

**Requires:** System 4.2 and Finder 6.0 or later.

**Application Size:** Disk Clinic, 183K; Recover, 185K; BackUp, 119K; Encrypt, 42K; Partition INIT, 13K; Partition DA, 53K; QuickCopy, 25K; Tools, 135K; TuneUp, 78K.

**Compatibility:** Mac Plus or later.

deleted files). It's safe and does a reasonable job quite rapidly, but it doesn't do as thorough a job as Disk Express. However, it has some nice features, such as a listing of all loaded INITs and the ability to lock out bad sectors.

SUM II is worth upgrading to and

worth getting as insurance against hard-disk crashes. Its convenience may prove the deciding factor in choosing a data-recovery program. SUM II can save your data, but the best insurance is still to make regular backups.

— Steven Bobker

## GRAPHICS

# PixelPaint Professional

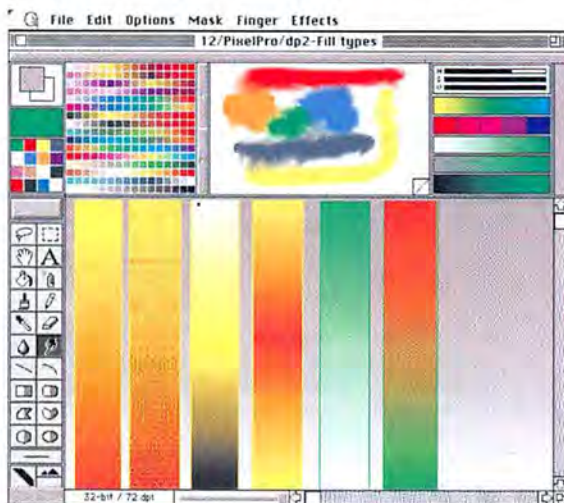
**PixelPaint Professional has well-designed 32-bit color painting tools with an interface that sometimes hides their horsepower too well.**

 PixelPaint Professional is the more colorful cousin of PixelPaint (see "Digital Palettes," October '89). It can still handle 8-bit (256) color and gray-scale work nicely, but you should consider it only if you need 16-, 24-, or 32-bit color capabilities. With 16.7 million colors at hand and an impressive collection of tools, PixelPaint Pro reaches some mighty heights, even though it does stop short of the summit.

**WHAT IT IS** PixelPaint Pro provides four 256-color palettes per document, and you can swap or edit them at any time. Unlike in the 8-bit Color mode, when you work in 16-, 24-, or 32-bit color, changing a palette has no effect on the colors already in your image. Palette editing controls for darkening, lightening, and contrasting are also available. You can choose colors from the System color wheel or specify Pantone colors. There's also a Pop-Down megapalette where you can mix and choose colors in a scratch-pad area. A straightforward control lets you set paint transparency.

With unlimited colors, its tools work realistically. The airbrush can lay down smooth fills, the water drop softens any area it contacts, and the finger (smudging) tool pushes colors into each other as expertly as any first-grader. The brush, finger, and water-drop tools can also trace

out a polygon or curving path. With their variable effects, you can use them as well-controlled tools for smoothing, darkening, and tinting any kind of shape.



Some of PixelPaint Professional's fill options include (from left to right) smooth transitions, dithered pixel blends, the full range of shades, dual blends, fade-outs, and more. Two tinting bars were applied to show overlapping color effects.

The lasso can also work as a selection polygon or as a spline (smoothed curve). The Polygon mode is great for capturing odd-shaped irregular areas. Each tool remembers its most recent modes and options.

PixelPaint Pro can help reduce jaggies by softening, or anti-aliasing, the edges of two adjoining areas. This effect can be applied to both graphics and text. When you copy a selection, you can have PixelPaint Pro soften its edges so that the selection pastes seamlessly. You can also



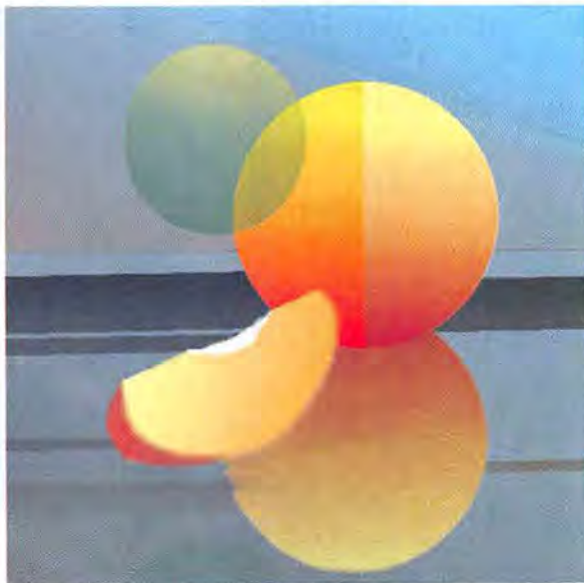
make a selection partly transparent so it looks ghostlike when it's pasted. Merging lets you import a *document* — which can be cropped or resized to fit a given frame and may be partly transparent — into a designated area.

Selecting a multicolored area from a multicolored background is no easy task. The tolerance of PixelPaint Pro's selection tools can be customized so that they grab (or ignore, depending on the mode) one or many colors when determining the edges of a region. Choosing Select Last automatically selects the last object you painted so you can process it further.

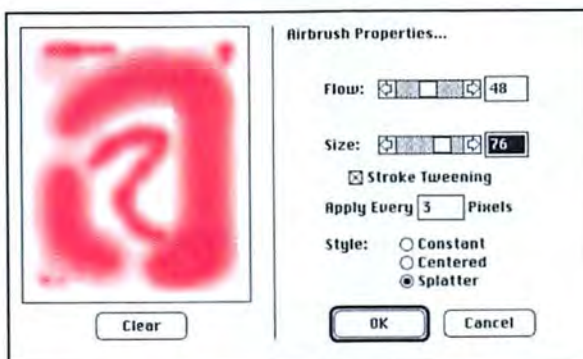
In the Painting mode, you can select one or more areas and dub them *masked*. There's a special mask layer in which you can further develop a protective shield for parts of your painting. You can elect to see and modify the mask, using the painting tools. To mask a specific range of colors, you drag the eyedropper tool over all the colors you want to protect. When you've finished, those marked colors, which can be anywhere in the document, become masked. You can use the paint bucket to mask a contiguous area automatically.

The program works with PixelPaint/PICT2, TIFF in 8-bit gray scale or 24-bit color, EPSF, and MacPaint files. Its printing options include gray scale, full color, spot color, or color separations. A scanner utility program, PixelScan, drives the Sharp JX-450 or Howtek Scanmaster 24-bit color scanners. It can save images in well-dithered 8-bit or in 24-bit color.

**HOW IT WORKS** PixelPaint Pro's selection mechanisms are powerful but far from perfect, which weakens the package substantially. Scrolling, zooming, or setting a transparency deactivates the selection. Distorting and then moving a selection rips its background off the canvas. Lassoed selections can't be processed with dynamic effects such as distortion, rotation, or slanting. Overlapping parts of selected areas become deselected. Selecting or dragging a selection past the



PixelPaint Professional is a 32-bit descendant of PixelPaint. Its Pop-Down Color Palette has all the tools you need to customize your colors. The smooth gradients in this illustration contain thousands of colors. Medium transparency was used for the green globe. The glowing ball was half-masked, and its colors were toned down with a transparent light-to-dark gradient. The edges of the apple slice were water-drop softened to a glow.



PixelPaint Professional's airbrush applies realistic feather-edged coats at any transparency. You control the type, width, and volume of the spray. Combined with variable transparency and masking, the airbrush is a formidable tool.

edges of the visible area doesn't auto-scroll, and you can't push a selection partly off the canvas. When pasted, a transparent selection becomes permanently imprinted with whatever it first lands on, so when you reposition it, you also drag away an unwanted imprint. SuperMac knows about these (and a few more) glitches and is working on them.

PixelPaint Professional's uncluttered interface is nice, but I'd like to see on-screen information on matters such as line width, Fill mode, indications of what special effect is in force, and whether your current tool has been set to use it. Some tactful additions to the tool palette — or tear-off windows — would help. But even with PixelPaint Professional's first-release shortcomings, you can easily adapt. Right now, no serious pixel artist should be without it.

— Salvatore Parascandolo

## Get Info

### PixelPaint Professional ★★★★★

List Price: \$699.

Published by: SuperMac Technology, 485 Potrero Ave., Sunnyvale, CA 94086; (408) 245-2202.

Version: 1.0.

Requires: System 6.03 or later; hard-disk drive; 2 megabytes of RAM for 8-bit color and 4 megabytes of RAM for true color; 8-, 16-, 24-, or 32-bit video card.

Application Size: 1,184K.

Compatibility: Mac II series or SE/30.



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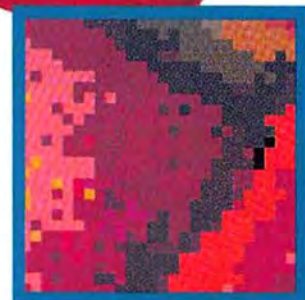
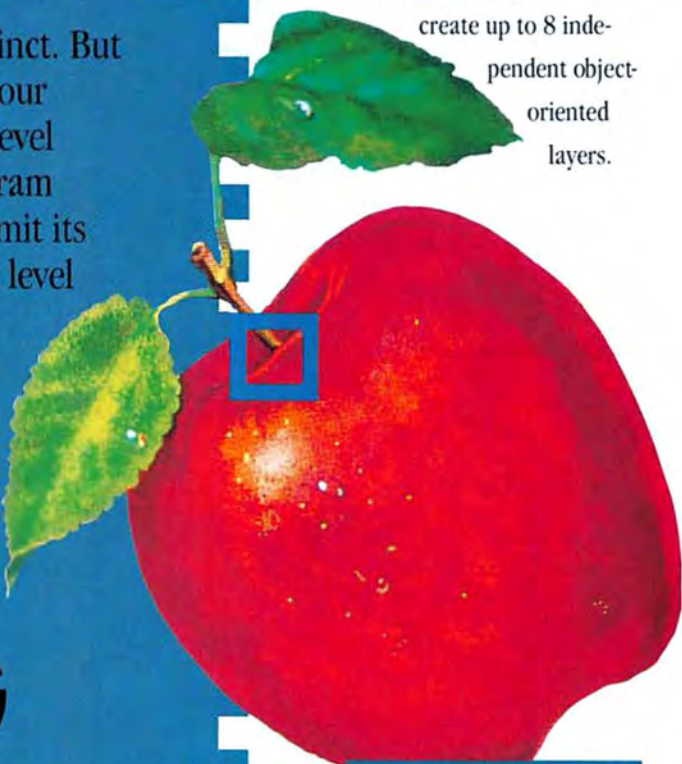
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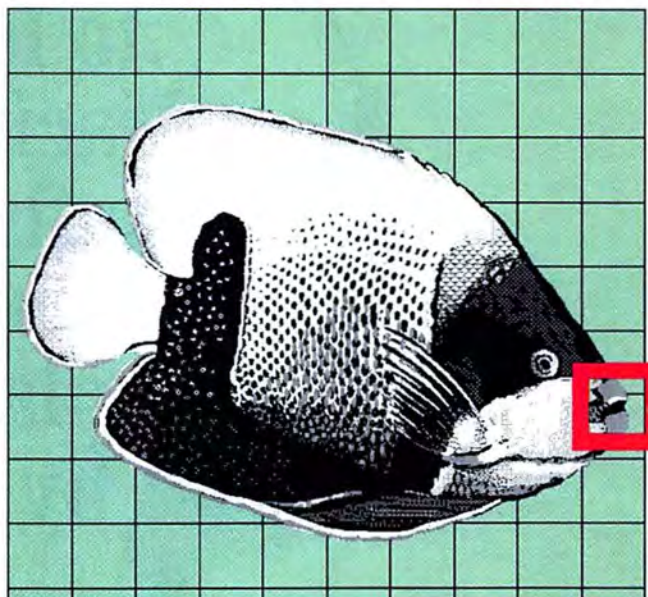
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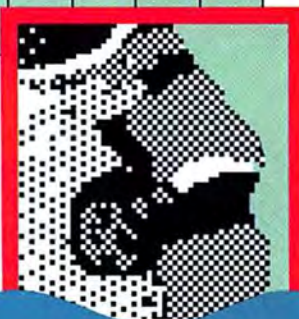
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## GRAPHICS

## MiniCad+

**An unusual CAD program distinguishes itself from the competition by incorporating a Pascal-like macro language, 3-D graphics, and a spreadsheet.**

Graphsoft's MiniCad began as a 2-D draw program and has now, as MiniCad+ version 2.0, grown into a full-blown 2-D/3-D CAD program.

**WHAT IT IS** MiniCad+'s first notable feature is its built-in programming language, MiniPascal. MiniCad+ 1.0 was the first Mac CAD program with its own macro language, beating AutoCAD and VersaCAD to the Mac market.

MiniPascal is a Pascal-like macro language that is intimately tied to all MiniCad+'s features. Although it doesn't contain every possible ISO Pascal facility, it does let you access many Mac Toolbox/OS functions such as menu and dialog-box creation and disk files. It also has a full set of QuickDraw-style tools for drawing and graphic-object creation. Basically, any 2-D or 3-D object or set of

Creating a macro is as easy as selecting an object and using Export as Text in the File menu. Once exported, a macro can be edited with any text editor and reimported as a text file. Graphsoft supplies Think Technology's PEdit, which is a compact text editor optimized for Pascal programming.

MiniCad+'s second breakthrough is the incorporation of a spreadsheet that's dynamically linked to 2-D drawn objects and their attributes. It's the only Mac CAD package that supports the creation of an integral spreadsheet.

Spreadsheets are dynamically associated with their 2-D objects,

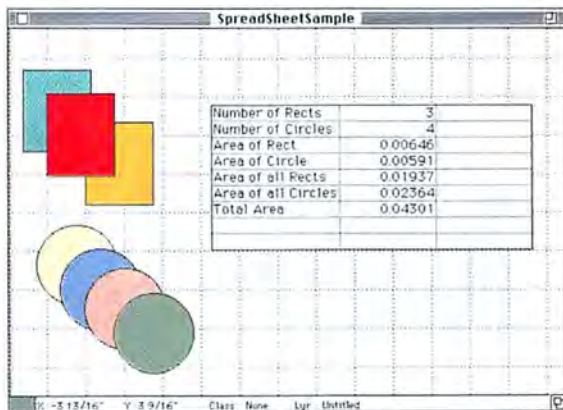
so if you change an object (for example, resize it), the relevant spreadsheet data updates automatically. You can, for example, use spreadsheets to gather information by using the Count function, which can add up the number of objects with a given name or in a previously defined class. Another useful capability is the Area function, which returns the area of a given object. Spreadsheets are limited to 254 cells, with approximately 50 built-in calculation functions. Only one spreadsheet can be active at once, but there's no

limit to the number of spreadsheets in a given MiniCad+ document.

Version 2.0 introduces floating tool palettes and gathers all the various restraint and snap-to features into a single floating palette that can now be hidden

from view. To allow access to logically grouped tools, certain tool selections expand horizontally to display other choices — for example, selecting the freehand tool also displays the Bezier-curve tool. With its many advanced functions, the program relies heavily on keyboard commands.

**HOW IT WORKS** MiniCad+ has a MacDraw-like feel, but its added features mean that it competes with the higher-end Claris CAD. It would be a powerful program even if it didn't have MiniPascal and spreadsheets. In addition, version 2.0 can read and write DXF (AutoCAD) and

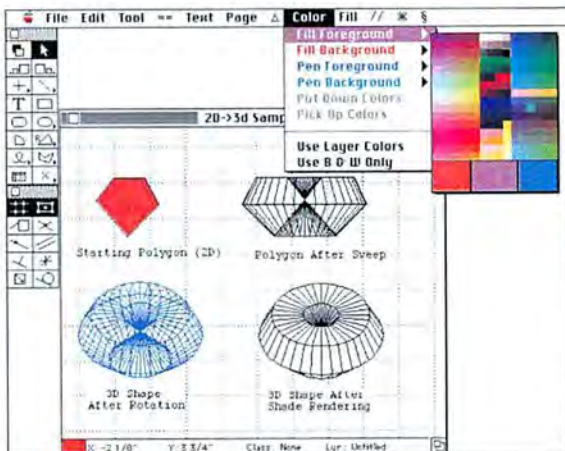


MiniCad+'s integral spreadsheet lets you set and investigate 2-D-object data. Here, the spreadsheet's Area function has been used to calculate the area within the rectangles and circles.

EPSF files.

MiniCad+ has extensive facilities for 3-D objects. And although it doesn't approach the interactive feel of solid-modeling packages such as Pro3D, it may well have the best 3-D capabilities among the low-cost (less than \$1,000) CAD programs.

The program performs quickly, even



MiniCad+ version 2.0 is a 2-D/3-D CAD package that includes a Pascal-like macro language and an integral spreadsheet. The symbols in the menu bar mark (from left) the Layers, Delta (rotation and alignment), Lines, Macros, and Spreadsheet menus.

objects can be represented in MiniPascal.

Once installed, MiniPascal's macros automatically appear in the Macros menu. Some complex macros are included with the package, and an active third-party-development effort is going on.

## Get Info

## MiniCad+ ★★★★★

List Price: \$695.

Published by: Graphsoft, 8370 Court Ave., Suite 202, Ellicott City, MD 21043; (301) 461-9488.

Version: 2.0.

Requires: System 6.0 or later; hard-disk drive; 2 megabytes of RAM recommended.

Application Size: 901K.

Compatibility: Mac Plus or later.



on 68000-based Macs. Error handling is generally good, and Graphsoft is helpful in supplying technical support.

MiniCad+ has just a few rough edges. It has no document scroll bars; you must use the arrow keys instead. Changing corners on rounded rectangles doesn't automatically update their spreadsheet formulas; you must perform a recalculation. The spreadsheet's Area function doesn't work on freehand-drawn objects. And the manual, as comprehensive as it is, has few tutorial sections (the best of which is the MiniPascal section), so you must rely on hands-on use or an optional six-disk HyperCard tutorial available from Graphsoft for \$89.

Still, MiniCad+ 2.0 is a powerful performer, and its programmability and spreadsheet features separate it from other CAD programs, regardless of price.

—Peter Mengozio

## PERSONAL FINANCE

# Quicken

**The best home-finance package of 1988 just got even better.**

Since its introduction for the Apple II in 1983, Quicken has been one of the most popular home-finance programs of all time. The reason is simple: The program is easy to use and powerful. Version 1.0 received five mice and a 1988 Eddy as the best personal financial package, and version 1.5 improves on the original.

**WHAT IT IS** Building on the hallmark design of mimicking your checkbook to keep track of your finances, the new version adds several features that enhance the program's everyday and tax value.

Quicken is like an electronic check register. You tell the program your deposits, what checks you have written, and what you have written them for, and it does the rest. By tracking your expenses by categories, such as food and supplies and medical expenses, Quicken is able to keep track of where you're spending your money. The benefit is twofold: You can plan and track your personal budget, and if the expenses are taxable, all you have to do is press a button and out come your

itemized expenses for tax purposes.

Tax-reporting enhancements are the biggest change in version 1.5. Quicken now provides you with detailed reports supporting each tax deduction and sources of income for IRS schedules A, B, C, D, and E and Forms 1040 and 2106, as well as Canadian tax forms. To complete the tax cycle, the program can be linked with the popular tax software MacInTax. Quicken keeps your tax records; MacInTax prepares your return and helps you do your tax planning.

Quicken's financial-reporting module has also been improved. Reports can be organized and subtitled by category (such as checks and withdrawals), expense type, payees, time period, keywords (or wild cards), and budget category (the program tracks your budget versus actual). The enhanced reporting capability works so well that Quicken is now the leading contender in the small-business market as a one-write, or check-ledger-based, accounting system.

The system's check-writing capability is also more robust than its predecessor's. As always, Quicken supports recurring entries, but now it can also batch payments — such as bills due at the first of the month — and print the checks for those bills in one simple step.

In addition to classic legal-sized checks, Quicken now supports payroll-style, or voucher, checks and regular wallet-sized checks. You still have to order checks from Intuit, but its service is fast and its check prices are competitive with those of banks. Window envelopes and personalized stationery for invoices are also available.

If you want to get fancy, Quicken can print imported paint or PICT images on your checks. The program's graphics tools make this simple, eliminating guesswork.

Quicken makes checkbook reconciliation a snap. All you have to do is click on your cleared items. The program then helps you proceed on an exception basis: You don't have to waste time looking at items that have cleared or things that balance — you can focus on the problems. Adjusting a balance takes no more than 20 seconds, and the new balance is displayed right in your check register.

**HOW IT WORKS** I can't overemphasize how easy Quicken is to use and what a remarkable program it is. Intuit has made the conversion seamless for users

Check Register: Checking				
Date/Type Num	Payee/Memo	Clr	Amount	Balance
9/12/89 Chk	1433 Humane Society Donation	X	-150.00	-2,210.53
9/15/89 Dep	Salary		1,800.00	-410.53
9/18/89 Chk	1434 Safeway	X	-85.08	-495.61
9/30/89 Chk	1435 National Bank 205 Park Plaza	X	-1,200.00	-1,695.61
10/1/89 W/d	ATM Cash Withdrawal	X	-75.00	-1,770.61
10/4/89 Chk	1436 Ace Insurance Policy #R225-8394-3489	X	-115.50	-1,886.11
10/4/89 Chk	1437 First National Visa Card 4024-5553-7775-9997	X	-325.00	-2,211.11
10/5/89 Chk	1438 Children's Hospital For Leukemia Fund	X	-125.00	-2,336.11

**Quicken version 1.5 is an even better check-register-based personal-finance package than its predecessor. The Quicken register looks just like your paper version, so you already know how to use it. You can enter all types of transactions, and Quicken does all the math and organizing for you.**

of version 1.0 — all you have to do is load the new software. The documentation is clear, crisp, concise, and — best of all — understandable. Intuit has consciously avoided using computer- or accounting-ese: Everything is in plain English.

Quicken is the best Macintosh tool for helping users manage home budgets or cash flow and do tax record keeping. For small-business users, the system runs the best one-write accounts-payable, accounts-receivable, payroll (yes, it calculates deductions and produces wage and tax statements!), and cash-forecasting system on the market. If that's not enough, you can export data in SYLK format to spreadsheets for further analysis.

Quicken version 1.0 was the industry standard. Version 1.5 has not only set a new standard, but it has also moved an order of magnitude ahead of the rest of the market.

—Ken Landis

## Get Info

**Quicken** ★★★★★

List Price: \$59.95.

Published by: Intuit, 540 University Ave., Suite 50, Palo Alto, CA 94301; (415) 322-0573.

Version: 1.5.

Requires: System 3.2 and Finder 5.3 or later.

Application Size: 200K.

Compatibility: Mac 512K or later.



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## BetaWatch

Products on the Horizon

**SilentPartner** is a wireless remote control that comes to the Mac via the PC. The two-part system uses a hand-held transmitter and a receiver that plugs into the Mac's ADB port and lets the user be up to 35 feet from the receiver while still controlling the Mac. Using the transmitter's cursor-control keys, you can perform all normal mouse functions. The receiver's battery-backed-up RAM stores up to three "pages" of 20 functions each, for use during a presentation without the danger of



losing anything when you unplug the unit. SilentPartner's receiver comes preloaded with templates for Persuasion, PowerPoint, and Cricket Presents, and users can create their own command sets with SProgram, SilentPartner's programming software.

**SilentPartner**, \$349. **Presentation Electronics**, 4320 Anthony Court, No. 8, Rocklin, CA 95677; (800) 888-8281. **ETA:** December 1989.

**DiskExpress II**, the latest incarnation of the popular disk optimizer, now optimizes disks on the fly. An INIT, DiskExpress II continually monitors file usage and, after a manufacturer's preset time, begins optimizing the disk, grouping often-used files. It performs defragmentation and consolidation automatically whenever the CPU is idle or the user requests them. DiskExpress II can be used on network file servers, but it can optimize only local disks; it can't optimize nodes across a network. For users with hard-disk partitions (or multiple disks), DiskExpress II automatically optimizes all mounted disks.

\$89.95; upgrade, free if DiskExpress was purchased after August 1 (\$25 plus \$3 shipping and handling otherwise). **ALSoft**, P.O. Box 927, Spring, TX 77383-0927; (713) 353-4090. **ETA:** September 1989.

## GRAPHICS

# World Class Laser Type

Tired of shelling out big bucks for fonts? Here's an alternative from Dubl-Click.

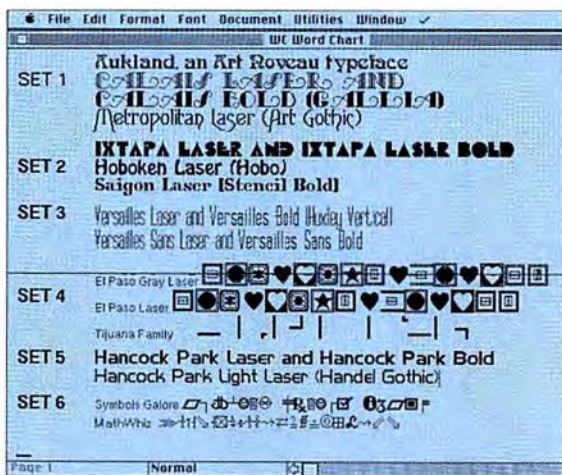
With its World Class Laser Type series, Dubl-Click bridges the gap between the fun fonts of the Macintosh and the serious fonts of the LaserWriter and other PostScript printers whose roots were in typesetting. The World Class Laser Type fonts are what typesetters call designed fonts, or specialty fonts. You wouldn't use any of them to typeset a book, but they definitely have uses and make wonderful accents.

Each of the six sets of World Class Laser Type comes on two 800K disks. One disk holds the actual fonts, including the screen fonts that must be installed in your System file (or in a utility such as Suitcase II or MasterJuggler) and the PostScript printer fonts that you place in your System Folder. The fonts also come with AFM (Adobe Font Metrics) files, which are used by some applications and printers.

The second disk is common to all sets and holds the utilities, including Apple's Font/DA Mover; BigCaps, an improved KeyCaps-like DA; FontCharter, an application that displays and prints two kinds of font charts; DefaultFont, a DA to set the default font used by most applications; LW Download, an application that lets you manually download the fonts to the printer; and Utility City, a PostScript font that contains fractions and symbols.

The World Class Laser Type fonts let you add personality to your PostScript-printer output. The screen fonts include bold versions of those fonts that come with bold PostScript versions, and selecting Bold from the Style menu in most programs automatically uses the bold screen font. The screen fonts also come in

multiple sizes, so you can see on-screen what you will get on the printer. The included utilities are easy to use and fairly useful. The manuals are simple and easy to follow. All in all, these fonts are an excellent value and can make great stocking stuffers for anyone who wants to add



Dubl-Click's World Class Laser Type fonts offer a variety of styles. Notice the subtlety of the bold versions of some of the fonts. One drawback is that italic and bold-italic screen versions aren't included for all fonts.

a visual accent to text.  
— Robert R. Wiggins

## Get Info

### World Class Laser Type



**List Price:** \$79.95.

**Published by:** Dubl-Click Software, 9316 Deering Ave., Chatsworth, CA 91311; (818) 700-9525.

**Version:** BigCaps 3.2; FontCharter 2.2.

**Requires:** PostScript printer.

**Application Size:** BigCaps, 14K; FontCharter, 24K.

**Compatibility:** All Macs.



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Arbhandymouse v2.2 by Dink-Click

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Time per Side... 10

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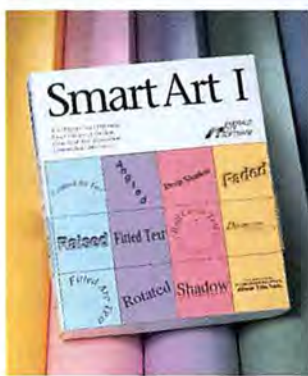


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# 30 DAY MONEY-BACK GUARANTEE ON SELECTED PRODUCTS

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**TurboFloppy 1.44** is a high density disk drive which increases your Macintosh floppy disk data storage capacity. It also allows you to copy MS/DOS files from 3.5" MS/DOS disks and then transfer them for use with Macintosh applications. The **TurboFloppy** comes standard with a 5 volt linear power supply, an on/off external termination switch, TurboCache & TurboBack software. MacPlus compatible and SCSI connected. .... **\$355.**



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Computer Eyes Mac II .....	349.	<b>Summagraphics Bit Pad Plus</b> .....	325.
<b>Koala Technologies Corp.</b>		<b>ThunderWare ThunderScan</b> .....	189.
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Mac Director .....	109.	Mac II Power Accessory .....	42.

## UTILITY SOFTWARE

<b>Adobe ATM</b> .....	57.	<b>Kent Marsh QuickLock</b> .....	57.
<b>Abbott Systems, Inc. CanOpener</b> .....	65.	<b>MacSafe or KnightWatch</b> .....	87.
<b>ALSoft Master Juggler</b> .....	64.	<b>Loop Software PictureBook</b> .....	Special 40.
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<b>Power Station</b> .....	35.	<b>Williams &amp; Macias DiskFinder</b> .....	27.
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<b>Insight Development MacPrint</b> .....	79.		



## Acta Advantage by Symmetry

This popular outliner takes your work from rough idea to organized reality. As both a desk accessory and a stand-alone application, use **Acta Advantage** as a writing tool, planner, organizer, scheduler, presentation aid, list maker, note taker — even a simple database. .... **\$65.**

## SPELLING & GRAMMAR CHECKERS

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Doug Clapp's Word Tools		WorksPlus Spell .....	55.
2nd Edition .....	42.	<b>Microlytics, Inc.</b>	
<b>Deneba Software</b>		Word Finder (Synonym Finder) .....	36.
Big Thesaurus .....	59.	<b>Electronic Word Finder</b> .....	59.
<b>Spelling Coach 3.0</b>		<b>DataStor Personal Organizer</b> .....	Special 95.
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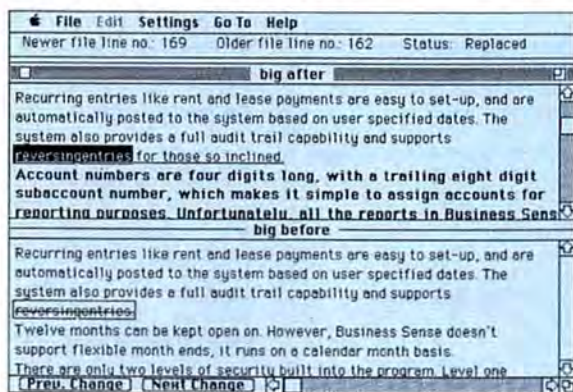


## WORD PROCESSING

## DocuComp

**This utility makes it easy to compare different versions of a word-processing document.**

One problem with using electronic documents is that it's often next to impossible to track the changes made to a document—a particularly vexing problem in the legal arena. Enter DocuComp, an application from Advanced Software that compares two documents and highlights the differences between them.



DocuComp lets you compare two versions of a document. Its main display shows the newer file on the top and the older file on the bottom. Deleted text is shown with strikeout characters; moved and inserted text is indicated with underlining.

**WHAT IT IS** DocuComp can read two document files—the original and a revised draft, for example—and display text that has been inserted, changed, and deleted. It can read plain text, Word, WriteNow, or WordPerfect formats and can even compare files created with two different word processors. The program ignores formatting of individual characters (such as boldface), blank spaces, font selection, and graphics contained in the two documents.

To get started, you can use either the DocuComp application itself or DocuComp Launcher. DocuComp Launcher is a 1K application that you can copy into word-processing-document folders on a hard or floppy disk. When you double-click on DocuComp Launcher, it launches DocuComp without going to find the

word-processing application. The reason is that DocuComp doesn't create any of its own documents; it uses word-processor files.

Once you've launched DocuComp, you select the newer and older files for comparison. Because the Macintosh file system allows you to save only one version of a file, you must save the two versions under different names. After you click on the Compare button, DocuComp performs an internal initialization, reads the two files, and does the comparison while displaying a horizontal progress bar.

DocuComp's main display, dubbed the Comparison Window, is built around two vertically linked windows. The top window displays the newer file, and the bottom window contains the older one. By default DocuComp displays inserted text in the newer document as underlined and

moved text in boldface. The older document shows deleted and moved text with strikeout characters. You can move between changes either by using the vertical scroll bars or by clicking on the Prev. Change and Next Change buttons at the bottom of the screen.

The Document Info display details the name, folder and disk location, creation date and time, size, and number of lines for the newer and older files. It also shows the number of replacements, insertions, moves, and deletions in the two files.

DocuComp's excellent reporting feature lets you create a composite document, in a word-processor format you choose, that details all the revisions made to the document. Along the composite document's left-hand margin are line numbers with change bars, which mark a phrase in that line that has been modified. By reading the underlined and boldfaced text and ignoring the struck-out text, you can quickly read the changes in the two documents. The end of the composite document contains the same summary information as the Document Info display, followed by a detailed line-by-line summary of the changes. This section prints a line and page number and the type of change (replacement, movement, or insertion), followed by the older and newer text.

**HOW IT WORKS** To test DocuComp's speed, I compared two 18-page (about 56K) WordPerfect documents with 30 revisions on a Macintosh SE with 1 megabyte of memory and an Apple 20-megabyte hard-disk drive. DocuComp took 1 minute and 10 seconds to read both files and perform the comparison, processing 11.25 pages per minute. Advanced Software suggests that documents of more than 25 pages be broken into multiple files for optimal performance.

Although DocuComp offers innovative features that most word and text processors do not offer, it has three major shortcomings. First, comparisons made on standard text files cannot reside in a comparison file saved as a text file; they must be saved in a file in one of the supported word-processing formats. This restriction exists because the current version cannot print text containing bold, strikeout, and underline characters with standard ASCII text characters. The second shortcoming is the lack of support for such popular word processors as MacWrite, FullWrite, and MindWrite. Last, you can only compare differences between two documents, thus inhibiting the creation of a complete audit trail. But for users who need to double-check their edits, DocuComp is elegant and simple to use. [Word 4.0 users can get a Word-specific version of DocuComp for only \$10 (plus \$2.50 shipping and handling) by returning the coupon in the Word 4.0 box to Microsoft. — Ed.]

— Jeffrey A. Steinberg

## Get Info

## DocuComp

List Price: \$159.95.

Published by: Advanced Software, 1095 E. Duane Ave., Suite 212, Sunnyvale, CA, 94086; (800) 346-5392 or (408) 733-0745.

Version: 1.11.

Requires: WordPerfect, WriteNow, or Word; System 4.1 (Finder 5.5) or later; hard-disk drive recommended.

Application Size: 209K; DocuComp Launcher, 1K.

Compatibility: Mac 512KE or later.



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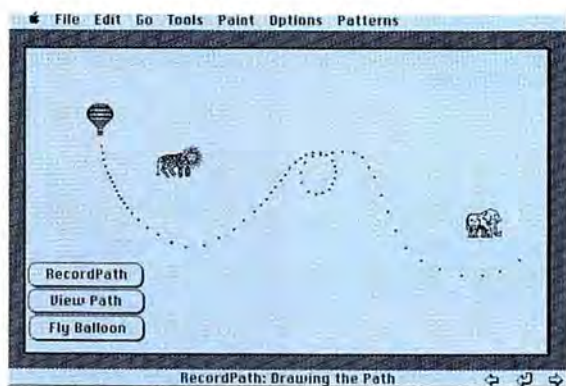


## HYPERCARD

# Wild Things

**XCMDs are the rage. Wild Things is a HyperCard utility that gives you 40 XCMDs and teaches you how to write them too.**

Most HyperCard utility programs share the same faults. The time you spend learning to use them would be better spent learning HyperTalk; they usually don't solve your problems, and you



**Wild Things is both a collection of external commands and a tool to help you develop your own. The RecordPath XCMD lets you draw an animation path on-screen, after which it saves the points into a card field. The faster you draw your path, the faster the icon moves, so you can easily vary an object's speed.**

often don't need the solutions they do provide. Wild Things, a set of 40 XCMDs (external commands), is the rare HyperCard utility package that actually does something useful for you: It teaches you about XCMDs. XCMDs and XFCNs (external functions) are chunks of programming code that add new commands to the HyperTalk language and tie in code from other programming languages. To paraphrase a maxim: Give me an XCMD, and I run one program; teach me XCMDs, and I write many programs.

**WHAT IT IS** Wild Things' XCMDs perform icon animation, fundamental trigonometry and statistics, and a couple of interface callbacks. That may not sound like much, except that Wild Things comes with four disks, two of which are devoted entirely to source code. Source code is

provided in three languages — Pascal (MPW, TML, and Lightspeed), C (MPW and Lightspeed), and FORTRAN (MPW) — for each of the 40 XCMDs.

Among the cards that demonstrate the XCMDs, the ones for animation are the most immediately appealing. These let you track the mouse directly or in circular, curved, linear, or 3-D pathways. Pathway coordinates are stored in fields that can guide an icon's movement. Additional XCMDs provide for multiple-object animation, collision handling, pop-up menus, and a SysEnviroms check to see which type of Mac is running.

The math routines may seem more appropriate for students, but they serve as the animation routines' building blocks. For anyone who has ever wondered how sines, arc sines, arc cosines, and tangents figure into the scheme of things, the sample code shows trigonometry in action.

**HOW IT WORKS** Wild Things includes a full-featured icon editor, beautifully illustrated sample stacks, and an excellent 105-page manual that explains XCMDs better than does any book on the market. Particularly useful are sections on XCMD headers and the templates that are tailored to each language.

Every card of every stack shows a thoughtful implementation of the XCMDs. The art and grace of Wild Things eases the difficulty of learning XCMD programming routines that's inherent in their Pascal, C, and FORTRAN parentage.

— Carrie Moss

## Get Info

### Wild Things ★★★★★

List Price: \$150.

**Published by:** Language Systems, 441-B Carlisle Drive, Herndon, VA 22070; (703) 478-0181.

**Requires:** System 6.02 or later; hard-disk drive.

**Application Size:** 850K.

**Compatibility:** Mac Plus or later.

## MUSIC

# Vision

**Opcode Systems' aptly named music package is the MIDI sequencer of the future.**

If you already own one of the popular Macintosh sequencers such as Performer (Mark of the Unicorn) or Master Tracks Pro (Passport Designs), get ready to kick yourself. MIDI sequencers — which transform the Mac into a device for recording, editing, and playing back the sounds produced by synthesizers, samplers, and other electronic music devices — are simple in principle but complex in practice. Chances are you've already spent long hours poring over manuals, mixes, and MIDI cables, and you figure it'd take something pretty spectacular to woo you away from your old friend. Well, you can kick yourself now. Opcode's Vision is *that* spectacular. As the new kid in professional sequencing, Opcode has had the time to examine everything on the market, gather the best ideas, and add several new features. The result is a new standard in Mac sequencers.

**WHAT IT IS** Vision is not simply a greatest-hits package. Like other professional sequencers, Vision supports full SMPTE control and offers event-list and graphics editing; real-time and step recording; looping; tempo, meter, and dynamic changes; and compatibility with standard MIDI files. But beyond its superb recording and editing functions are features designed to enhance the music-creation process.

Consider MIDI Keys, a function that lets you map certain Macintosh keyboard commands to your MIDI controller. You can, for example, assign the top E-flat on your keyboard to begin recording a sequence, or you can use a control slider to change tempo in real time. You can even assign a controller key, switch, or foot switch to trigger a Macintosh macro, using QuickKeys, Tempo II, or MacroMaker. Another feature, MIDI Shift, lets you disable MIDI Keys by stepping on a foot switch — useful for those times when



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you'd rather not set off a string of macros.

Vision also has a Faders window. The 32 faders provide access to real-time control over volume, tempo, and synthesizer-specific functions such as modulation depth and portamento. You control the faders by clicking and dragging on the

control bars, typing in numeric values, or scrolling through the numeric display with Opcode's own arrow cursor. Most fader movements in real time are recorded for automated mix-down.

Besides simplifying control over operating functions, Opcode has included

some music-making goodies. By choosing Constrain to Scale, you can map your keyboard to play only the scale tones of an alternative mode. This feature is great if you're uncomfortable venturing outside major or minor keys, although it can be counterproductive for more-advanced players who occasionally go outside a scale.

Vision also offers computer-generated sequences. Take a musical passage, copy it into another sequence, and choose Generated in the dialog box. Your sequence can then be played backward, with different rhythmic values, or in a random fashion based on your basic chord structure.


How easy is Vision to learn? Holding down the Command, Option, and Shift keys while clicking on any item presents a pop-up Help window describing that item. This is especially useful for learning about unfamiliar icons and windows. The manual begins with a fairly extensive tutorial that takes you step by step through the basic operations and highlights the more innovative features of the program. The latter part of the documentation describes the nuts and bolts of Vision in loving detail.

**HOW IT WORKS** Vision requires at least 1 megabyte, and trying to run it without a hard disk is a chore. Although Vision is not exactly a memory hog, it certainly qualifies as a small pig. With only 1 megabyte, you'll find that you can't open certain windows simultaneously and that redraw time in the graphics window is slow. By the time you read this, Opcode should have released version 1.1, a free


## Rumor Manager


### Gossip, Guesses, and Goings-On

 Not only is a low-end Mac on the way, but also Apple has settled on the ultimate way of avoiding clashes with Apple II owners who might feel their turf is being invaded: The whole Apple II division is to be spun off, à la Claris, as an independent company. The likely leader is Steve Wozniak. Apple will supply a strong infusion of cash, people, and equipment. Once the split has been accomplished, the new Mac will appear. Right now, that new Mac looks very much like an SE with a 20-megabyte hard-disk drive and a \$995 price tag.

 Yet another major MS-DOS producer is considering jumping into the high-end word-processor wars. No, it's not one of the major MS-DOS word-processor publishers but a company that's well known for its programming languages and tools. It's been hiring Mac programmers and designers at a furious clip, and some of its top people were observed at the last Macworld Expo in deep discussion with some Mac word-processing gurus.

 The expected sales boom — or boomlet — in artificial-intelligence software hasn't materialized. But AI publishers have identified the reason for sluggish sales (using software that isn't selling too well, no doubt): There's no great, useful AI application to tempt the masses. They've put their programs and minds to that problem, so you can expect some interesting new AI applications for the Mac in the next few months. They'll be cheap; powerful; and above all, useful.

 Graphics are the heart of the Macintosh, and yet detailed graphics have always been drawn very slowly on-screen. Other computers separate out the graphics components and assign them their own processor, thus achieving screen-drawing speeds much faster than the Mac's. Why the Mac hasn't had a graphics coprocessor or accelerator so far is a bit of a mystery. But the subject will be a moot point within a year, or 18 months at the most. Third-party manufacturers have finally cracked the problem, and reasonably priced (if \$3,000 to \$4,000 is your idea of reasonable) accelerators should start appearing. They offer graphics speed increases of 1,000 percent or more — no kidding. Screen redraws that now take a minute or two will take a second or less. And that's not the half of it — Apple and others are hard at work on coprocessors that will increase speeds even more. These are likely to be very pricey at first — \$5,000 is a figure we've heard quoted in dark alleys.

 Heard any good rumors lately? If we use your rumor, we'll send you a token of our appreciation and promise not to use your name. Anonymous contributions are also accepted.

■ ■ ■ ■ ■

Our U.S. Mail address is Rumor Manager, c/o MacUser, 950 Tower Lane, 18th Floor, Foster City, CA 94404. Our electronic addresses are MacUser (on MCI Mail), 74206,204 (on CompuServe), and MacUser. Edit (on AppleLink). No calls, please.

### Get Info

#### Vision 1/2

List Price: \$495.

Published by: Opcode Systems, Inc., 3641 Haven Drive, Suite A, Menlo Park, CA 94025-1010; (415) 321-8977.

Version: 1.01.

Requires: MIDI interface; MIDI synthesizer.

Application Size: 700K.

Compatibility: All Macs with 1 megabyte.

Copy Protection: Key disk; one hard-disk installation per master disk.



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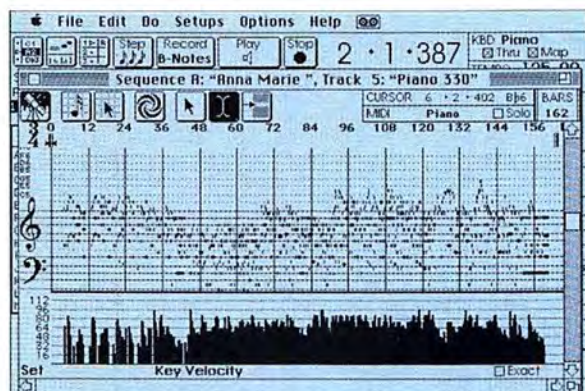
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## START UP



Opcode's Vision is a truly visionary MIDI sequencer. The Telescope icon in Vision's graphics-editing window indicates that you're seeing the big picture. Vision lets you zoom in on selected measures for more-precise editing. The strip chart at the bottom details controller information, which can be altered graphically.

upgrade for registered users, that adds in-play scrolling to the editing windows, better fader access, and a pencil tool for graphically modifying continuous

performance — to its formidable event-list editing capabilities.) But for now, this is the Vision of the future.

— Christopher Breen

controller information. Opcode is also planning to release EZ Vision, a scaled-down version of the program with a lower price.

Vision has emerged as the new leader in sequencing technology, but the others are not far behind. You can expect your old friends to make your choice more difficult with further upgrades. (Witness Mark of the Unicorn's Performer version 3.2, which adds a host of graphic editing tools — such as "chunking" together sets of songs and sequences for easy triggering during live per-

### 3 for the Roadies

If you want more than just software, Opcode is also bundling Vision with Studio 3, its rack-mount MIDI interface and synchronizer, although at \$459, this feature-packed unit is too expensive to use as a simple MIDI interface. Studio 3 includes modem- and printer-ports with six assignable outs, jam sync (regeneration of time code), the ability to read and write all SMPTE formats, MIDI time code, and direct time lock (the time code Performer uses). If your controller doesn't have assignable foot-switch functions, Studio 3 also gives you access to MIDI Keys and MIDI Shift through two foot-switch inputs. In addition, the package includes DA software for controlling SMPTE and MIDI setup functions while running any application.



## Where will your electronic mail system



Some people see electronic mail as a simple desktop utility for shooting messages down the hall. Period.

Microsoft, however, sees it as a strategic business investment that should dramatically boost communica-

tion and productivity five minutes after installing it. And five years after running it.

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# Trade Show BIZ

## Macworld Expo

BOSTON, MA — The biggest news from this summer's Macworld Expo was that there was no big news. Apple Computer put off its announcements until it could hold its own extravaganza at Universal City, California, in September, and that left the field open for smaller manufacturers and publishers, who came up with enough developments to make things interesting.

One of the most interesting trends was in color printing. Du Pont-Adobe, Kodak, and Canon were demonstrating continuous-tone color printers with color quality that put thermal-wax printers to shame. With continuous tone instead of dithering, the apparent resolution was considerably higher than the reported dpi and there were no color-banding problems. The Du Pont-Adobe unit, 4CAST, is PostScript-compatible, prints images of up to 11 x 17 inches, and costs \$75,000. (You're looking at a sample of

its output.) The paper and dye-ribbon cartridges are also expensive (\$500 for a 100-sheet pack of paper with a ribbon for the 4CAST), but continuous-tone printing may be the color-output technology we've been waiting for.

Another item to watch for came from Ashlar. Vellum, Ashlar's CAD package, is intelligent enough to anticipate how users might want to close a given shape, and can do so for them. Vellum is one of the first examples of "smart" software we've seen — it holds great promise for increased productivity and ease of use.

WELCOME TO MACWORLD EXPO/BOSTON!



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# The power and performance of big system CADD...MicroStation Mac

Intergraph introduces MicroStation Mac — microCADD software merging the power of 2D/3D engineering design software with the ease of the Macintosh user interface.

## Multiple-screen graphics

MicroStation Mac supports a maximum of eight separate views of a design. These are resizable and can be placed on any of up to six graphic screens, the maximum supported by the Macintosh. This allows for better display flexibility, resulting in more productivity and less design time.

## Reference files

MicroStation supports 2D and 3D design and reference files so a user can attach up to 32 design files to the current file for reference. Reference files can reside locally or be accessed remotely over a network, thus allowing users working on the same project to view all the files simultaneously.

## Fully Intergraph-compatible

Files are maintained in the same binary format on every platform so that MicroStation/IGDS files can be freely transferred between the VAX, PC, Intergraph workstation, and Macintosh with no translation required.

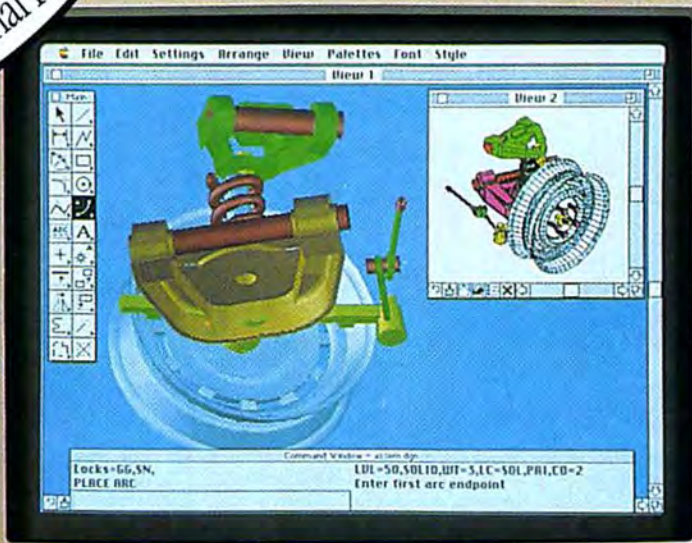
With over 450 commands and features to meet your design needs, MicroStation Mac exemplifies the most complete functionality of any CADD package available for the Macintosh, making MicroStation Mac your best choice for design needs.

For further information on MicroStation and the Intergraph Education Center and Reseller programs: in the U.S., call 800-345-4856; in Alabama only, call 800-345-0218; outside the U.S., contact an Intergraph sales office.

# INTERGRAPH

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Macintosh IIx



## GRAPHICS

## Showcase F/X

**Aegis' Macintosh debut is an easy-to-learn, dedicated titling package that's good if titling is all you need.**

Thanks to MacroMind Director and Studio/I (see "Presentations with Punch," September '89), Mac-based animation has become a hot topic. But instead of a full-blown animation package, a titling kit is all that many users need—something simple to jazz up a chart or enliven a presentation. And that's what Showcase F/X is designed to do.

Showcase's animations are limited to the foreground—background material is static, although some text and color effects are available.

SlideShow, a stand-alone program included with Showcase, lets you create presentations by sequencing a series of animations and adding transitions, such as dissolves and wipes, between them.

For textual effects, Showcase includes the nine standard System fonts and seven proprietary Poly Fonts, object-based fonts that you can flip, distort, mirror, and resize while retaining smoothness. These capabilities (along with 20 other textual effects) really let you play with text—about the only thing you can't do is edit any of the fonts. Aegis plans to release more Poly Fonts for Showcase later.

If you're not used to working with object-oriented graphics programs, you'll find moving text tricky. Unless you position the pointer on top of the text or on the line of the text box, you end up pulling on one of the handles, distorting the text instead of moving it.

You can import background graphics from other paint and presentation programs, but Showcase reads PICT files only. And if you do create a background in a color paint program, you're better off using the System palette, since Showcase doesn't recognize custom palettes for imported images. Showcase also saves its animations in the Amiga-standard ANIM format, not the Mac-standard PICS format.

You can paste to the background through the Clipboard, but Showcase isn't too friendly toward pictures you paste in from the Scrapbook. My Mac crashed each time I attempted to do the latter.

Aegis has said that future versions will read other graphics file formats such as MacPaint.

You can also scan in PICT backgrounds in the form of halftones, gray-scale images, and line art with resolutions of up to 300 dpi. Aegis includes a scanner driver that works with the Apple scanner and other units that are compatible with AppleScan. But don't expect to have all the capabilities with Showcase's driver that you would with AppleScan—for example, you can't preview scans with Showcase's driver.

**HOW IT WORKS** The manual recommends that your Macintosh have at least 2 megabytes. Even if you work with the 2-megabyte minimum requirement, however, you'll run into some performance limitations in the paint tools; after prolonged use, they sporadically stop working. You'll also be limited in the complexity of the background you can import.

Showcase is a real stand-alone in terms of compatibility—you can't export Showcase sequences into other animation packages, and you can't import sequences from other packages into Showcase. If you want to do real-time animation or fully animated presentations, you're better off looking into Studio/I, MacroMind Director, or VideoWorks II. But if you have a presentation that consists mostly of titles running across a static background, you'll like Showcase F/X—it's a good choice for users who want a little more than a standard presentation package without delving into the complexities of a full-blown animation package.

— Kristi Coale



Showcase F/X is Aegis Development's animated-titling package. You can add distortion and textual effects to its proprietary fonts without destroying their legibility. This background (including the logo in the sky) was pasted in from Studio/I. The Script Editor provides a fast method for creating and editing a title sequence.

**WHAT IT IS** Showcase F/X is the first Mac product from Aegis Development, which has enjoyed success with animation packages in the Amiga market. Showcase is the first module in Aegis' Animation Workshop Series. Planned packages will include 3-D and other effects.

Since animating text is generally easier than animating figures, Showcase F/X is a good starting point for anyone exploring the field. The program employs two widely used methods of computer animation: manual frame-by-frame recording and tweening, the automatic generation of a sequence between two manually defined frames. You can use one or the other exclusively or mix the two within an animated sequence. Unfortunately,

## Get Info

## Showcase F/X 1 1/2

List Price: \$395.

**Published by:** Aegis Development, 2115 W. Pico Blvd., Santa Monica, CA 90405; (800) 458-5078 or (213) 392-9972.

**Version:** 1.0.

**Requires:** 2 megabytes; hard-disk drive; System 6.0.2 or later.

**Application Size:** Showcase F/X, 416K; SlideShow, 56K.

**Compatibility:** color Mac II or later.



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**W**ith so many Mac products on the market, it's hard to know which ones best suit your particular business needs. As a holiday gift, *MacUser's* editors sorted through the pack and selected more than 200 of their favorite stocking-stuffers.

On the surface, the assignment may have sounded like something from TV's "Mission: Impossible" — to cull through a Mac universe of more than 4,000 products — hundreds of which pass through our offices every month — and come up with our short list of the very best. But we accepted the assignment. "The best" was defined as products that we couldn't do without, ones that handled everyday tasks in especially elegant or productive ways. (Of course, just because a product isn't in our roundup doesn't mean it's not eminently suitable for your own tasks.)

MacUser Labs spends most of the year torture-testing mainline products for serious business users. In this end-of-year issue, we present a comprehensive list of

# 200 BEST MACINTOSH PRODUCTS

the best products in a variety of categories: top DAs, INITs, ancillary applications, and peripherals. In their midst are great games and music, educational, and training products as well as clip art, fonts, and HyperCard stacks. We've even included a carefully mulled brew of useful shareware.

What you're *not* going to find are mouse ratings, which *MacUser* reserves for official product reviews and labs. Nor will you find the usual meat-and-potatoes products that get broad exposure in the pages of *MacUser*.

Users who are starved for more-staple fare will need to turn to past issues of *MacUser* to fill their plates. To steer you in that direction, we've provided you with a roster of the subjects we've covered each month in 1989 (see below). There, you'll find the bottom line on word processors, databases, and spreadsheets, on accelerators and CPUs. Here, in the meantime, you'll find merry shopping.

## 1989: A Year at a Glance

In 1989, *MacUser* covered HyperCard each month through August and then included desktop-publishing and connectivity topics in every issue. Readers should refer to the August issue of *MacUser* for the most recently published version of MiniFinders, our comprehensive listing of rated products.

**Accounting, money management:** April, September, October

**Accelerators, NuBus, RAM upgrades:** February, March, June, July

**Artificial intelligence:** September

**A/UX:** February, June

**CAD:** July

**Connectivity:** February, April, May, June, July, August, September,

October, November, December

**Databases:** June, July, September, November

**Desktop presentations:** May, June, September, October

**Desktop publishing/graphics:** Every month

**Hard drives:** April

**LCD technology:** January

**Macintosh CPUs:** March, June, October, November

**Modems, fax:** February, August

**Monitors:** October

**Multimedia:** February, March, November

**Music:** February, April, August

**OCR:** June, October, November

**Peripherals, mouse alternatives, keyboards:** February, September, October

**Printers:** September

**Project management:** May, October

**Removable media:** March

**Scanners:** February, June

**Spreadsheets:** April, June, September

**Telecommunications:** January, May, August

**Utilities:** May, June, July, August, September, October

**Word processors:** February, May, July, August

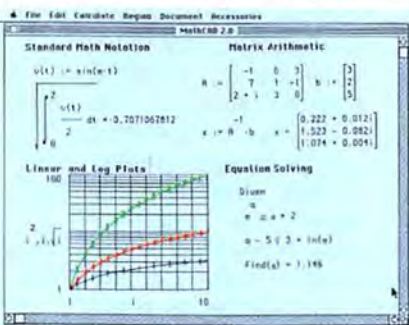


# After centuries of practice, mankind perfects engineering calculations: MathCAD.

## Announcing MathCAD: A Calculating Renaissance For Your Mac.

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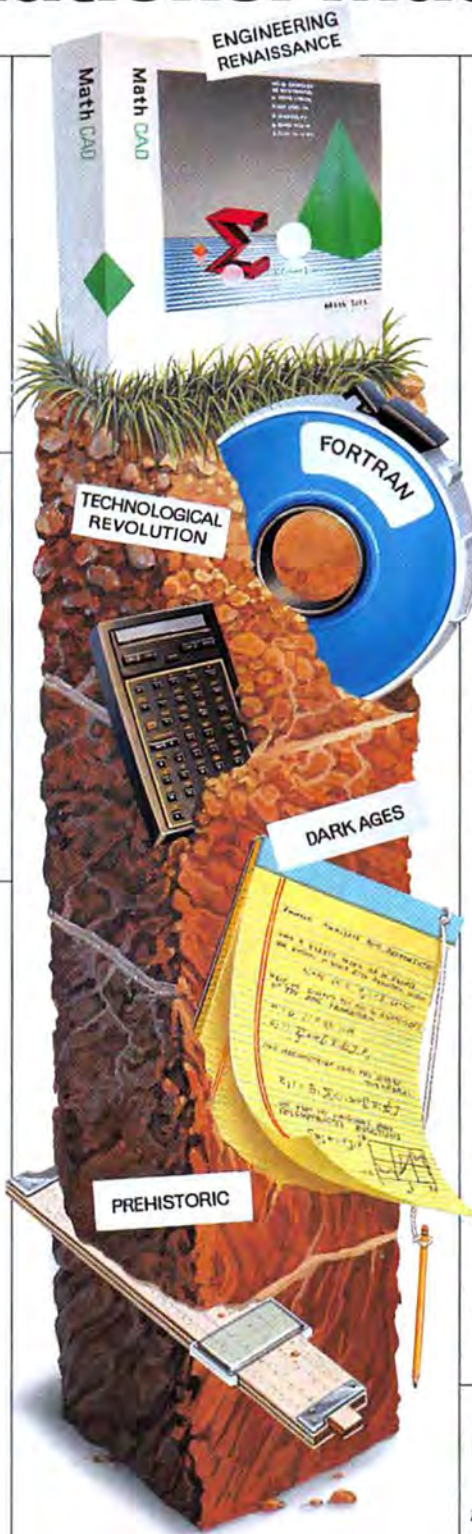


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# Utilities and DAs

## DAs and INITs

### After Dark (INIT)

#### 1&2 Pyro! (INIT)

Everyone who has a Mac needs a screen saver, and these packages are the tops. After Dark is the newcomer, and if you thought you could become hypnotized by watching Pyro!'s fireworks, wait till you see all the ways you can customize After Dark. You can choose your screen-saver image from bouncing balls, crawling worms, floating logos (including your own), lightning bolts, and more. After Dark is actually a screen-saving shell, so programmers can create new screen savers in just a few minutes. If you're a one-dog kind of person, Pyro!'s your ticket. If variety is what you're after, it's After Dark. After Dark (version 1.0) requires 512KE.

\$39.95. Berkeley Systems, 1700 Shattuck Ave., Berkeley, CA 94709; (415) 540-5535. Pyro! (version 3.3) requires Mac Plus. \$24.95. Fifth Generation Systems, 11200 Industriplex Blvd., Baton Rouge, LA 70809; (504) 291-7221.

### BigThesaurus (DA/INIT)

#### 3&4 WordFinder (DA)

If you've ever been stuck for a particular word or the nuance of a meaning, a thesaurus is usually your last resort. Both BigThesaurus and WordFinder provide easy and, more importantly, fast access to large collections of synonyms. With both products, you can select a word and then have it looked up. Besides the expected synonyms, BigThesaurus provides definitions and antonyms; it also provides a large list of alternatives than

does WordFinder. BigThesaurus has a movable, resizable window — WordFinder appears only in a fixed location. For many, WordFinder will suffice, and because it is bundled with Word, many users already have it. But if you want or need more diversity, you should choose BigThesaurus. BigThesaurus requires 512K. \$99.95. Deneba Software, 3305 N.W. 74th Ave., Miami, FL 33122; (305) 594-6965. WordFinder requires 512K. \$59.95. Microlytics, 300 Main St., East Rochester, NY 14445; (800) 828-6293.

### Capture (INIT)

### Exposure (INIT)

#### 5,6,&7 SnapJot (DA/INIT)

If you need to capture the contents of your screen for casual use or publication, you can boost your productivity



## Utilities and DAs

with the right screen-dump utility. These three utilities work in any color mode.

Capture lets you select the part of your screen you want to capture, up to the size of your monitor. It can grab pulled-down menus and dialog boxes. Depending on your selected preferences or a modifier key, your shot can go directly to the Clipboard or a PICT file.

Exposure grabs a screen image and instantly gives you an impressive set of color-editing and -enhancement tools so you can modify and print the current shot without needing a paint program. The tool kit is tailored for screen-shot editing — it includes customizable arrows, automatic window trimming, and the ability to add text comments. You can save the edited shot in the Clipboard, in the Scrapbook, or as a monochrome or color bit-mapped file.

SnapJot can capture any selected portion of your screen and instantly put your selections into floating windows that you can move around the screen as a visual reference. It captures pulled-down menus and dialog boxes as well. Use the windows as on-screen notes or as multiple-graphic clipboards. You can print or copy a window to the Clipboard or save it as a named file in MacPaint or PICT format. Capture requires 512KE. \$79.95. Mainstay, 5311-B Derry Ave., Agoura Hills, CA 91301; (818) 991-6450. Exposure requires 512KE. \$99.95. Preferred Publishers, Inc., 5100 Poplar Ave., Suite 617, Memphis, TN 38137; (901) 683-3383. SnapJot requires 512K. \$36. Trillium Software, 21W171 Coronet Road, Lombard, IL 60148; (312) 916-9360.

### **DAtabase (DA)**

### **8&9 QuickDex (DA)**

Either of these database managers will fill your Rolodex needs, but for sheer speed and simplicity, you can't beat

QuickDex. QuickDex's "records" don't contain any fields; simply enter information onto a blank "card." Because QuickDex loads an entire database (or as much as will fit) into RAM, it's lightning fast. DAtabase is a true flat-file manager, and as such, it lets you create database forms — including graphic and calculated fields. It's several times slower than QuickDex, but if you like to structure your work or to have reminders on-screen when you're collecting information, DAtabase is a good choice. DAtabase (version 1.12) requires 512KE. \$129.95. Preferred Publishers, 5100 Poplar Ave., Suite 706, Memphis, TN 38137; (901) 683-3383. QuickDex (version 1.4a) requires 512KE, hard-disk drive recommended. \$60. Casady & Greene, P.O. Box 223779, Carmel, CA 93922; (408) 624-8716.

### **11 GOfier (DA)**

If you need to find words and phrases within large bodies of text, usually distributed throughout many files, GOfier is probably the best tool available. It searches through files after you tell it what to seek, where to look, and what specific conditions should be met. Once GOfier locates the text, you can copy it from the window and paste it into any text application. Programmers find GOfier useful for searching through MPW's many interface files. GOfier 2.0 now supports the file formats of the latest word processors, including Word 4.0. Requires Mac Plus. \$79.95. Microlytics, 300 Main St., East Rochester, NY 14445; (800) 828-6293.

### **MasterJuggler (INIT)**

**12&13 Suitcase II (INIT)** These resource managers are essentially equals. MasterJuggler packs in more features, but Suitcase II is more elegantly designed. Both can help you manage fonts, DAs, and sound files with greater efficiency — and safety. Both free

### **10 DiskTop (DA)**

DiskTop has reached almost legendary status as a Finder add-on. From its beginning as a shareware DA to its current incarnation, it has allowed users to copy, move, delete, rename, and find files from anywhere you can open a DA. If you wanted to do something along these lines in the pre-MultiFinder days, DiskTop was almost the only alternative. Even with MultiFinder, DiskTop is often the fastest and easiest way

to get something done. With DiskTop 4.0, CE has added more-convenient access to DiskTop's features via hot keys, as well as more-advanced application-launching capabilities. GOfier 2.0 is bundled with DiskTop 4.0, making this one of the most complete search-and-retrieval packages. Requires 512K. \$49.95. CE Software, 1854 Fuller Road, P.O. Box 65580, West Des Moines, IA 50265; (515) 224-1995.

### **HandOff (INIT)**

**14** Were you frustrated by your MacWrite II upgrade when all your old MacWrite files wouldn't open? HandOff eliminates this kind of hassle. If the Finder can't find an application to associate with a file you've selected, HandOff lets you choose the application you'd like to launch. It also remembers the application you picked so the next time you double-click on a file of the same type, the correct application is launched. You can now safely accept your friends' MacWrite files, and every time you double-click on them, your favorite word processor will launch. \$49.95. Software Innovations, Inc., P.O. Box 811, Allen, TX 75002; (214) 727-2329.

you from having to install DAs and fonts into your System file in order to use them. Whichever one you pick, you (and your System) will be the better for it. MasterJuggler (version 1.5.) requires 512KE. \$89.95. ALSoft, P.O. Box 927, Spring, TX 77383-0927; (713) 353-4090. Suitcase II (version 1.3) requires 512KE. \$79. Fifth Generation Systems, 11200 Industriplex Blvd., Baton Rouge, LA 70809; (504) 291-7221.

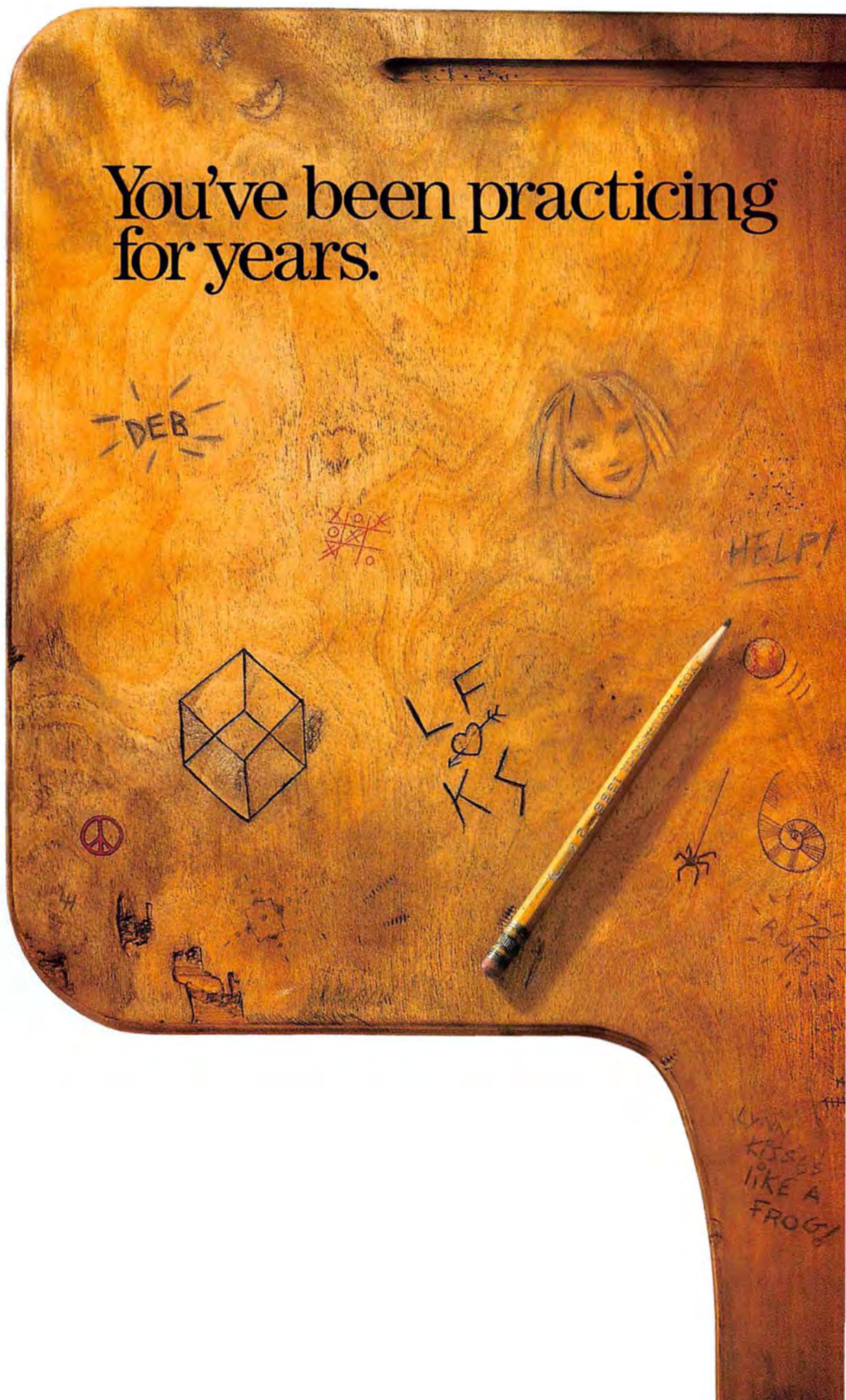
### **15 MockPackage+ (DA/INIT)**

This is a loaded set of DAs that can fill in the gaps in your software collection if your needs aren't too extensive. It has a basic text editor that includes a Find function. Its terminal-emulation package can put you on-line at up to 2,400 bps. It can store up to ten dialing sequences and can send and receive in the background. A charting utility has basic chart types that you can paste into other documents. A background-printing utility prints text files to only ImageWriters while you work.

This package contains several other gems, including AAsk, the INIT manager that lets you enable or disable selected INITs during startup; FolderShare, which sets up your preferred access privileges to new folders on an AppleShare server; and LaserStatus, which monitors the activity of a LaserWriter even before you commit to a print job and can also download fonts and a series of PostScript files. Requires 512K. \$35. CE Software, 1854 Fuller Road, West Des Moines, IA 50265; (515) 224-1995.



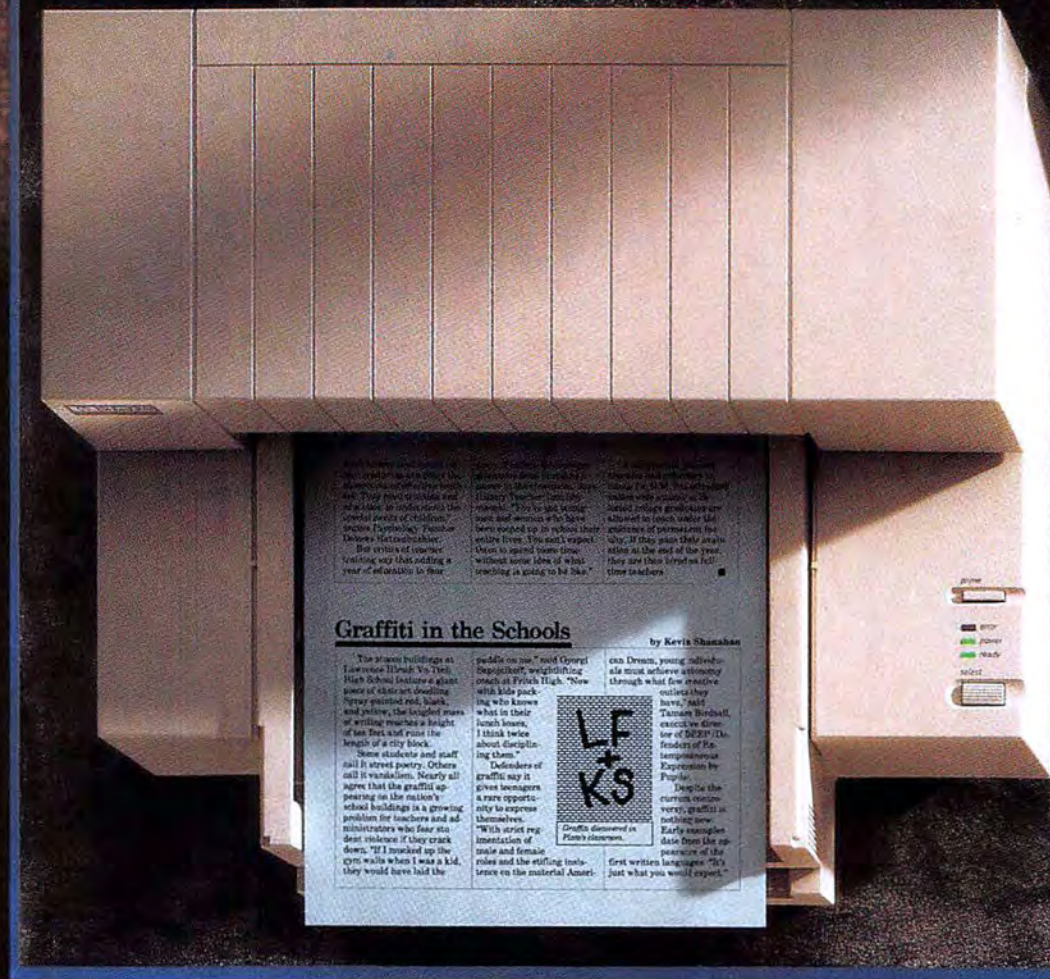
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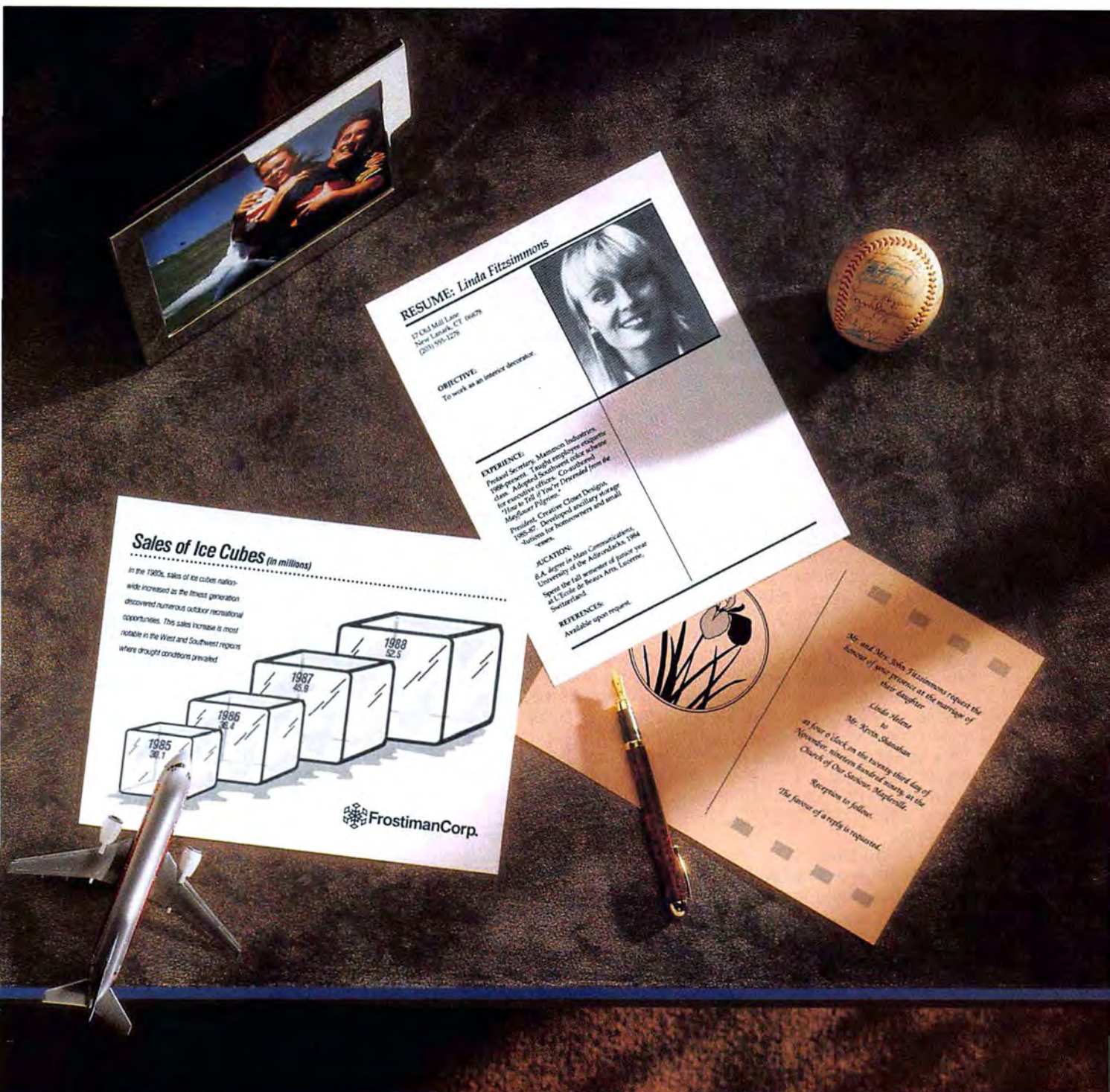
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## Utilities and DAs

### 16 MultiClip (INIT)

When you copy an item to the Clipboard, it normally obliterates whatever was saved there before. MultiClip is a Clipboard replacement that provides the instant copy/paste access of the Clipboard with the multiple-item convenience of the Scrapbook. Whatever you cut or copy is saved in sequence, so that sequential-paste operations progress gradually through the items you've copied. It's great for collecting snippets of art or text and pasting them back in the order in which they were copied or cut. It even imports existing Scrapbooks. Requires Mac Plus. \$69.95. Olduvai Corp., 7520 Red Road, Suite A, South Miami, FL 33143; (305) 665-4665.

### 17 MultiDisk (INIT)

"United we stand; divided we fall" isn't necessarily the best approach to hard-disk management. Sometimes what you want is a divided — or, more correctly, partitioned — hard-disk drive (especially if you have a large one, which makes subsections easier to manage). MultiDisk lets you create resizable partitions from any available free space on your disk — contiguous space isn't required. You can password-protect and encrypt your partitions, as well as specify which partitions should be mounted at boot-up. Version 1.2. Requires 512KE. \$69.95. ALSoft, P.O. Box 927, Spring, TX 77383-0927; (713) 353-4090.

### On Cue (INIT)

### 18&19 PowerStation (INIT)

The Finder is a great system for filing and organizing files, but it's not particularly good when it comes to frequently used applications and documents. On Cue and PowerStation are two of the best INITs for keeping your daily work and applications at hand. On Cue provides a menu of installed applications and documents, regardless of your current application, and lets you easily switch jobs without ever visiting the Finder. PowerStation installs applications and files onto "pages" of buttons. By running MultiFinder, you can achieve a level of functionality similar to On Cue's. Since neither program cares where you've stored programs and files, you can keep your hard disk organized in any way you like. On Cue (version 1.3) requires 512K. \$59.95. ICOM Simulations, 648 S. Wheeling Road, Wheeling, IL 60090; (312) 520-4440. PowerStation (version 2.5) requires 512KE. \$59.95. Fifth Generation Systems, 11200 Industrious Blvd., Baton Rouge, LA 70809; (504) 291-7221.

### QuickKeys (INIT)

### 20&21 Tempo II (INIT)

As applications have become more complex, so have their menus — for many users a macro program is a necessity. Macros let you type a keystroke that starts a chain of events that would otherwise require much typing, clicking, and dragging. They're serious work-savers. Apple's MacroMaker can serve simple needs. QuickKeys and Tempo II are two alternatives that extend your reach.

QuickKeys is a reliable, easy-to-use macro package. In addition to making menu choices, you can assign (and reassign) an application's keyboard command equivalents, create command sequences, set specific times for sequences to launch, and even specify a sequence to execute every time you open an application.

Tempo II is a utility that can record far-reaching command sequences, including ones that launch several applications in turn and do some work in each one. It has sophisticated branching that can be based on the contents of the Clipboard. You can instruct Tempo to pause for a while, wait a specified time before proceeding, or repeat a number of times. Tempo's developer has published extensions that are conceptually similar to HyperCard's XCMDs. They let you create macros that play digitized sounds, play a macro identified by highlighted text, test the free space on a disk, rename files, determine if a radio button or check box is on or off, and more. Holy macro! QuickKeys (version 1.2) requires 512KE. \$99.95. CE Software, 1854 Fuller Road, P.O. Box 65580, West Des Moines, IA 50265; (515) 224-1995. Tempo II (version 1.02) requires Mac Plus. \$149.95. Affinity Microsystems Ltd., 1050 Walnut St., Suite 425, Boulder, CO 80302; (303) 442-4840.

### SmartScrap (INIT)

### 22 The Clipper (DA)

The Mac's Scrapbook DA is handy enough if you don't need more than one

### SmartArt (DA)

24

While you're working with your favorite word-processing, drawing, or layout program, you can use SmartArt to produce a fancy PostScript text or graphics effect. Select the basic effect and then customize it by specifying parameters such as size, degree of rotation, depth of shadow, and others — depending on your initial choice. SmartArt programs the effect in PostScript and sends it to a LaserWriter — not for printing, but for developing an EPSF preview version of the final image, which you can paste into the document. You can purchase additional effect packages as needed. Current packages include text trickery and a variety of shaded shapes. Requires Mac Plus and 300-dpi PostScript printer. \$149.95. Emerald City Software, 800 Menlo Ave., Suite 102, Menlo Park, CA 94025; (415) 324-8080.

scrapbook and you're willing to settle for a small, nonscrollable window to view art and text clips. SmartScrap is a highly enhanced alternative that provides multiple scrapbooks; the ability to select an area of stored text or graphics for copying; and a zoomable, scrollable window. Moreover, you can get a thumbnail view of a scrapbook's contents. You can also name each stored item, search for it by name, and print it.

SmartScrap's companion accessory, The Clipper, is a prepaste helper that lets you see the item you've copied to the Clipboard and gives you tools to crop it precisely and scale it before you put it into an application that might not have those capabilities. Requires Mac Plus. \$89.95. Solutions International, 30 Commerce St., Williston, VT 05495; (802) 658-5506.

### 23 Shortcut (INIT)

In a nutshell, this INIT brings you folder creation, file finding, unstuffing, and high-speed movement among folders, all from within the standard file-access dialog box. You can build lists of folders and files that Shortcut remembers and accesses at a keystroke. For "mouso-phobes," all these functions are available from the

keyboard, making tedious maneuvering through directories a thing of the past. The folder and file lists alone justify Shortcut's price, but being able to find files, even files within Stuffit archives, is a bonus not worth missing either. \$79.95. Aladdin Systems, 217 E. 86th St., Suite 153, New York, NY 10028; (212) 410-3080.



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## BUSINESS/PRODUCTIVITY

- ☐ **Bi-Plane/Power Page (5005)**—Two great spreadsheets. One is full featured, the other is the Power User's choice.
- ☐ **Form It! (5020)**—An excellent form making package. Includes a collection of MacPaint Business Form Templates.
- ☐ **Smallview/Scheduler (5010)**—Everything you need to organize your time, and keep track of information.

## CLIP ART/FONTS/DESKTOP PUBLISHING

- ☐ **MacBillboard/MacPaint Utilities (5800)**—The MacPaint clone. Includes lots of paint and graphic utilities.
- ☐ **MacPaint ClipArt Disks (3 disks) (5501)**—Quality MacPaint format clip art. Comes with a viewing program.
- ☐ **PostScript ClipArt (2 disks) (5601)**—EPS Graphics for LaserWriter or PostScript printers.
- ☐ **PostScript Fonts (3 disks) (5701)**—Many different EPS Fonts.

## EDUCATION

- ☐ **Mac 'n States/Time Lines (6025)**—Learn the states and capitals. Time Lines has notes on historical events & famous people for any date.
- ☐ **Natalia's Dots/Word Match (6020)**—Programs to entertain and educate the young child.
- ☐ **Typing Teacher/Spelling Tutor (6015)**—Improve your typing skills and learn to spell (digitized sound!) with these two fine programs.

## GAMES

- ☐ **Arcade Games 1 (6501)**—Three addictive games! Space Station Pheta, Adventures of Snake, and Gunshy 1.1.
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- ☐ **Board Games (6550)**—Monopoly, Risk, and Stratego. Great graphics!
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- ☐ **Pinball (6590)**—Tilt out on these fun games.

## ADVENTURE GAMES

- ☐ **Karth (6755)**—You become Karth of the Jungle. Unique digitized sounds and graphics!
- ☐ **On Call (6750)**—Be the doctor "on call" in the hospital emergency ward.
- ☐ **Radical Castle (6760)**—An adventure game with digitized sounds and graphics.

## UTILITIES

- ☐ **Custom Utilities (7525)**—Customize your Mac with Startup inits, wraparound pointer, password protection and more!
- ☐ **Font Utilities (7515)**—Font tester, font finder, sorters, and many more.
- ☐ **Hard Disk Utilities (7500)**—Everything needed to maintain and improve your hard disk!
- ☐ **Init Resources (7535)**—An entire collection of inits for your Mac.
- ☐ **Misc. Utilities (7530)**—Ramdisk, reverse screen, print spoolers, and more!
- ☐ **Resource Editors (7540)**—Edit your resources, alter your icons and much more.
- ☐ **Vaccines & Disinfectants (7505)**—Rid your Mac of pesky viruses! Includes Vaccine, Disinfectant, and Gatekeeper.

## MISCELLANEOUS

- ☐ **Banner & Calendar Makers (7005)**—Create banners and graphic calendars easily.
- ☐ **Desk Accessories (7545)**—Over thirty of the best DA's around!!
- ☐ **RedRyder 9.4 (7050)**—The classic Mac communication package.
- ☐ **Soundmaster (7010)**—Alter the personality of your machine with new sounds.

## HYPERCARD

**Note: Hypercard Stacks require Hypercard, an 800K drive, and one Meg of RAM.**

- ☐ **Business Help Stacks (8500)**—Includes a tickler (appointment reminders), rolodex, phone book/auto dialer, call screening program, and more!
- ☐ **DinoMight Stack (8615)**—Learn about dinosaurs. Excellent graphics, animation, and sound.
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report—and it even includes a spell-checker aimed at eliminating typos.

Of course, if your document needs to be supported with numbers, you can always jump over to the spreadsheet to compute and analyze data. And then transform it all into easy-to-read, easy-to-understand charts.

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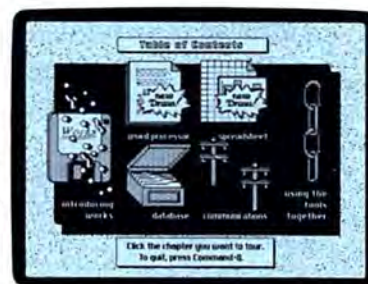
If you'd like to learn more about Microsoft Works 2.0, just call (800) 541-1261, Dept. I75 for the name of your nearest dealer.

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## HOME REALTY FRONT

Real Estate News for the Greater Aspen Community - Published by Martin Realty

### Lowest Lending Rates Since 1983!

Last week mortgage interest rates reached a five-year all-time low. First Mortgage offered a 30-year, 95 percent new home loan at 8.5 percent with no points. Unheard of in recent years.

Resale of homes has jumped 13 percent over sales recorded during the same period last year.

New Home sales are up 17 percent. Several local lenders have put together special new home financing packages in cooperation with local contractors. Call our Aspen office at (426) 838-2961 for details.

### Crown Construction Opens This Year's Alpine Woods Development

The Alpine Woods development will be open for public tours from July 15 until August 21. Each home represents a distinct style from contemporary to French provincial—all homogeneously placed to create a uniquely attractive neighborhood.



Each home has been fully decorated by a local interior design firm and each is singu-

just shopping for ideas, we recommend this year's Alpine Woods development.

You can park at the Denny Shopping Center and take a tour bus from there between 9:00 a.m. and 6:00 p.m. daily.

### HOME OF THE MONTH

#### Lakefront Country House: Designed for Entertaining!



This lovely brick and cedar country house can be found just fifteen minutes from downtown Aspen. Nestled in giant firs, it represents true Colorado style!

The master bedroom suite features a panoramic view of Lake Diamond. The master suite also has his-and-hers walk-in closets, a separate vanity, and a stunning shower area made of glass bricks.

The living room, study, family room, and bedrooms (2+) feature hand-polished redwood panelling and skylights.

The three-car garage has special wall-mounted ski racks and an extra-sized third stall to accommodate up to a 24-foot boat.

Two additional baths, a stone fireplace, 800 square feet of decking, three wooded acres, and a private dock complete this rural stream home.

July 28, 1988

Gary and Lisa Elliot  
533 4th Street  
Denver, CO 84556

Dear Gary and Lisa,

This Saturday, I look forward to showing you a few of the quality homes in the Aspen community.

Per our phone conversations, we will be looking at family homes with a minimum of four bedrooms, two-and-a-half baths, a family room, and a three-car garage. It sounds like you are a pretty active family, so I've also chosen homes with a "mud room" for changing wet boots, etc.

One issue that we haven't really discussed is schools. Before Saturday, you might want to jot down a few priorities. Public, private, parochial? Level needed—from pre-school to college. And any special needs your children may have, like proximity to an indoor pool or gym.

I can also put you in touch with any youth organizations you may be interested in like The Boy Scouts or 4-H. We have it all.

You mentioned wanting a fairly good-sized lot. Does this mean that you will need stables or a barn? I can even put you in touch with a local riding stable if you wish.

Since you plan to be here for the whole weekend, let me know if I can be of any help with hotel reservations or activities. I can arrange for anything from theatre tickets to a riding lesson.

Whatever might make your stay more pleasant, and leave a good impression of Aspen.

It's a beautiful place and we're happy that you've decided to make it your home.

Sincerely,

Peter Cohen  
Residential Agent

cc:file

### COMMISSIONED SALES REPORT—JUNE

Sales Person	Type	Rate	Sales YTD	Billings	Check Amt.
Shannon Pitts	Commercial	3.80%	\$275,000	\$88,000	\$334.00
Lisa Doan	Residential	3.00%	\$320,000	\$120,000	\$360.00
Peter Cohen	Residential	3.00%	\$230,000	\$100,000	\$300.00
Robbie Ross	Commercial	4.00%	\$500,000	\$340,000	\$1360.00
Mike Lucero	Residential	4.00%	\$150,000	\$65,000	\$260.00
Gary Gigot	Residential	7.00%	\$700,000	\$260,000	\$1820.00
Mary Freeman	Residential	3.80%	\$450,000	\$60,000	\$2280.00
Joan McArthur	Residential	2.60%	\$250,000	\$99,000	\$2574.00
Barbara Miller	Commercial	3.00%	\$250,000	\$130,000	\$3900.00
Robyn Komachi	Commercial	2.80%	\$780,000	\$240,000	\$6720.00
Residential			704,000		
New			325,000	46.16%	
Prev. Owned			250,000	35.51%	
Land Only			129,000	18.32%	
				100.00%	

### Breakdown of Residential Sales



New	46.2%
Previously Owned	35.5%
Land Only	18.3%

Everything you see above was created using some combination of the five tools within Microsoft Works 2.0: word processing, spreadsheet, database, drawing and communication. As you can see, the real power of Microsoft Works 2.0 comes into play when all the tools are used together.



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And to end this ad on an upbeat note, LightningScan can be yours for just \$495 suggested retail. So get rolling to your dealer and pick one up today.



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## Utilities and DAs

### 25 Stepping Out II (INIT)

If you have a smaller screen than you'd like, using Stepping Out II will fool your applications into believing that your screen has grown. By using it to set up a large virtual screen that you can navigate simply by using your mouse, you can make your Mac's real screen act like a moving window over the larger one. Stepping Out II is indispensable for preparing page layouts, large charts, drawings, and spreadsheets. You can do most scrolling instantly without ever touching a scroll bar. Requires Mac Plus. \$95. Berkeley Systems, Inc., 1700 Shattuck Ave., Berkeley, CA 94709; (415) 540-5535.

### 26 Thunder II (INIT)

Thunder II offers the advantage of an instant spelling checker for most applications and DAs. In addition to providing interactive (the program beeps when mistakes occur) and batch spell checking, it can keep a common dictionary for all your word-processing work. It warns you about double words, misplaced capitals, spacing after periods, and more. It includes a Glossary function that can expand a few keystrokes into words or even long phrases. Its suggestions about misspelled words are fast and smart, and it can use multiple dictionaries. Requires Mac Plus. \$79.95. Electronic Arts, 1820 Gateway Drive, San Mateo, CA 94404; (415) 571-7171.

### 27 Vantage (DA)

Vantage is a commercial DA that works on pure-text documents. It offers tools for manipulating and converting text. Its line-wrap feature can break up text so that lines don't exceed a specified length, which is handy for telecommunications work. Vantage can also remove line feeds — the little squares that you see when you open files created by other versions of the program. To complete the package, there's a spelling checker and macro facility. If you telecommunicate or deal with text-only files frequently, and you want a word processor handy while running other programs, get Vantage. Requires 512KE. \$99.95. Preferred Publishers, Inc., 5100 Poplar Ave., Suite 617, Memphis, TN 38137; (901) 683-3383.

## DAs/Applications

### Acta Advantage

### 28 (DA/application)

Regardless of your Macintosh's primary job, you can reap serious benefits from this capable and handy outliner. You can stack words and pictures in order of



## DeskPaint (DA/application) DeskDraw (DA)

**29** You won't want to live without DeskPaint, a black-and-white painting powerhouse. It can open MacPaint, PICT, PICT2 (colors and grays appear as black or white), and TIFF files at resolutions up to 4,000 dpi. Use its modes to create, edit, and browse through bit-mapped art such as screen dumps, idea sketches, and scanned images. You can check scanned text on its way to an OCR program. DeskPaint offers free rotation, perspective, and distortion and it can even auto-trace portions of a bit map to produce draw-type outlines that you can place in object-oriented applications for editing.

If you need drawing capabilities on the fly, DeskDraw has plenty of muscle. You can draw basic shapes plus a smoothable polygon and free-hand line. It supports resizable text blocks with right- or left-justification, or centered text. Each object or imported bit map can be any of eight basic colors. Polygons, lines, and freehand objects can be rotated in 1-degree increments around any point.

DeskDraw is a good brainstorming tool and an ideal complement to DeskPaint. It opens object-oriented and bit-mapped PICT files and can do simple single-page layouts in a pinch. Requires 512KE. \$129.95. Zedcor, 4500 E. Speedway, Suite 22, Tucson, AZ 85712-5305; (602) 881-8101.

importance, and Acta lets you set up a hierarchy in which one heading controls several subtopics. By hiding or showing subtopics, you can get an overview of your document or you can concentrate on its finest details.

You organize blocks of text by dragging them through the hierarchy instead of cutting and pasting. You can paste graphics as "topics" in an outline and arrange them as freely as text. Acta has sorting and searching functions that enable it to serve as a catalog utility, and it can save in MacWrite, labeled-text, and plain-text formats. Its format can be read directly by MindWrite, which keeps the outline structure intact. Requires 512KE. \$129. Symmetry, 761 E. University Drive, Mesa, AZ 85203; (602) 844-2199.

## **30** CanOpener (DA/application)

If you see a lot of files, there's a chance you might not have the application needed to open some of them. CanOpener is a universal file opener that can open any text, paint, PICT, EPSF, or snd file for viewing or listening to — regardless of its format. Earlier universal openers such as Glue and OpenIt! required documents to be saved in their proprietary formats first. CanOpener is a true universal opener that lets you view a document's text and graphics together, as well as letting you conduct free-text searches and recover text and graphics from files with corrupted proprietary formatting. Version 1.0. Requires Mac Plus. \$125. Abbott Systems, 62 Mountain Road, Pleasantville, NY 10570; (800) 552-9157.

## **31** The Curator (DA/application)

If you regularly use several types of artwork, you can be more efficient at browsing through it and storing and retrieving it from your hard-disk drive with The Curator. It can work as a bookkeeper for your files, keeping a thumbnail catalog of mixed-format art. You can browse through this catalog and visually find what you need, or you can search by document names or keywords that you've associated with each picture. As you browse, you can see each file's creation and modification dates, format, and creator program. It handles MacPaint, PICT, PICT2, 1-bit TIFF, and Glue formats, and Mac and IBM EPSF and can convert most formats to other ones. Requires 512KE. \$139.95. Solutions International, 30 Commerce St., Williston, VT 05495; (802) 658-5506.

## **32** QuickLetter (DA/application)

Writing a letter with a word processor such as Word 4.0 is similar to hunting a squirrel with an MX missile. When all you want to do is to write a letter, QuickLetter can do the job, and it can be used from within any application. QuickLetter supports graphics in the letterhead and return-address areas of envelopes, automatically centers text vertically on the first page of a letter, lets you maintain an address book complete with salutations for automatic letter and envelope addressing, and allows you to create stationery for form letters and everyday correspondence. Version 1.01. Requires 512KE. \$124.95. Working Software, P.O. Box 1844, Santa Cruz, CA 95061-1844; (408) 423-5696.

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# To John Sculley from Japanese Macintosh Users

## 日本語システムのリリースについて

日本のマックユーザは、哀しい境遇に置かれています。高い値段のマックを買わなければならないし、日本語のシステムは何かと制限が多いし、日本語ソフトは高価だし。

漢字Talkの現状を、スカリーさんは御存知なんですか。それとも、日本のユーザには制限付きのシステムで十分だとおっしゃるんでしょうか。非常に哀しいことです。

漢字Talk 2.0は、極端な納期遅れでリリースされました。そして漢字Talk 6.0では、Multi Finderの動作を保証しないという制限付きでリリースされました。次の漢字Talk 7.0では、どんな内容で日本のユーザを驚かしてくれるのでしょうか。それを考えると、あまりにも哀しい。やはり日本のマックユーザは、哀れですね。

米国では責任の所在がハッキリしてると米国通の友人から聞きました。この漢字Talkの現状は、誰が原因なんですか。こんなことを追及すると怒られるかな。

とにかく、英語のシステムと比べて制限があったり、リリース時期が極端に遅れたりした助弁してください。できれば英語システムから3ヶ月以内にリリースできるような体制でお願いします。漢字Talk 7.0では、日本のマックユーザを喜ばせるような方向で驚かせてください。期待しています。

Jintaro Miura

いつから自転車はステイタスシンボルになったのか？ ベンツ、ボルシェ、フェラーリ、言わずと知れた高級車。総てが黄金でできていると思われているジバンギでも、立派なステイタスシンボルです。普通の人が皆乗れる訳ではありません。そんなジバンギでも自転車はごくごく普通の乗物です。とても便利な道具でし、使い易いによって自動車よりも快適な生活を約束してくれます。

「パソコンは知的自転車である」と私の崇拝するある方が書いておりました。IBM PCは、よくできたベンチやトンカチなどの仲間であり、知能の香りはしない」とこれ又私の尊敬する方が述べておりました。ふむ！ なかなか洒落たことをおっしゃいますね。私も一応考えたんですけど、実際ベンチやトンカチに乗る事はできませんので、アップルマークの知的自転車を買いました。なかなか快適です！ さすがにアップルマークが付いているだけあって、たいしたものですね。ジバンギの道路用にスペシャルチューンされたバンドンなどが付き、アメリカ価格の1.5倍ほどでした、しかし私もこれでもジバンギの住民、クレジットで購入です！

乗っている時やハンドルがぐらついたり、チェーンが外れたりするので、恐れ多いとは思いつつ、偉い殿様達が勤めていらついたらというアップルジバンギに電話をすると、マニュアルをよく読めとか、使い方が悪いのではないかと叱られ、マルチファインダーと言うギアが無いので相談すると、ジバンギの道路では対応していないと冷たく言われました。

アメリカでとても魅力的な自転車が出たので、またまた電話すると、「君たちは売らないよ」と殿様のお言葉でした。アメリカでは自転車はステイタスシンボルなのではないか？ ジバンギではアップルマークが付いている自転車を見ると、皆フェラーリとかボルシェとか言ってくれます。

世界の視野に立ち、未来を感じさせるアップル社が世界中どこでも使えるMACを誇りに思うのなら、アメリカのみならず何処でも、アップグレード、OSアップデート、販売などユーザが納得するものを公平に提供するのには当然の義務ではないでしょうか？ アメリカのユーザも日本のユーザも同じMACフリークです。世界企業アップルとしてやるべきことはやってください。我々日本ユーザは待ち望んでいます。

Takao Onkawa

## 拝啓

小生東京に住む3児の父親で小さな喫茶店を営む37歳の男性です。以前からApple IIを使い2年前からはMACを使うように成りました2台のコンピュータの基本思想に深く感銘し又楽しんで使っています。先日(オデッセイジョンズカー)を読む機会に恵まれよりAppleを深く知る機会に恵まれ大変喜んでます。MACの先進性は極東の地日本でも変らず親しみやすく又奥の深い物と評価されています。しかし残念な事に日本国内でMACは非常に高価です。高価なのは外国製品一般に言えることですがもっと多くの日本人が国産機種と同じように気軽に買える価格にして欲しいと思っています。更に日本の漢字トークシステム6.0等はマルチファインダーが入っていません。日本のユーザは高価で不便なMACを買いたくないのですか。このままではMACは少数派から抜け出す事は出来ないでしょう。

現在日本製日本語ワードプロセッサの国内の売行きを見ても漢字トークへのより多くの投資が将来無駄に終わらないと思うのは私一人では無いと思います。(漢字を使う国は日本だけではなくあります)真にワールドワイドなパーソナルコンピュータを望むならば非本国アメリカと同じ環境で使えるようにお願いしたい。勝手な事はばかり言っていますがAPPLEを敬愛している一人の意見として御一読下さい。又来日の時は是非新宿に御寄り下さい美味しいコーヒーを御馳走します。

最後に私の様なMAC初心者には発言の機会を与えてくれた皆さんに感謝します。

Katsuya Taira

米国では、Apple IIの時代から公共図書館や大学・研究機関では School Price あるいは Academy Discount が実施され、Mac になってからもそれは続いていると伝え聞いている。教育という場所、アカデミックな場所でのその実施は、初めからApple IIやMacに備わっている創造性あるパフォーマンスと共に相乗的な効果を発揮している。Apple IIやMacは潜在的にせよ誰しもが持っている創造性を触発し覚醒させ、School PriceあるいはAcademy Discountはその質と量の拡大を図る呼び水となった、といえる。そうした無形の財産をアップル社は形成してきたことには、拍手を送りたい。

そのフレンドリーで先進的な姿勢が変わらないから、大学でApple IIやMacに慣れ親しんだ世代が社会へ巣立っている今日もなお、身近ながらも強力な道具として家庭にビジネスに用いられているのである。そのことは、School PriceあるいはAcademy Discountによる普及が効を奏していることは疑いの余地がない。商品の普及には先行投資はつきものである。むしろそれにより多くの人材とソフトウェアが確実に増加してきたことを振り返れば、先行投資の効果はそれだけ絶大であることは、Apple社自身も承知のことであろう。

Script Managerにより英語圏のみならず、日本など2バイト言語の国々にもその魅力がアピールされ、さらにSE-030やHexによりそのパワーは格段の飛躍を遂げている。日本語処理や表計算の速さは十分実用に耐え得るものとなり、しかもLaser Writer NTX-Jによる出力は日本の国産機をはるかにしのぐ水準に達している。

しかし、日本では依然としてSchool Priceは実現されていない。その実力は日本のNECやFujitsuなど寄せ付けられないものであるにもかかわらず、その魅力に引きつけられてあらゆる方面から関心を寄せているにもかかわらず、価格競争力やアフターケアでは惨敗を喫している。残念なことにはそれを改善する気配すら伺えない。日本においても上で述べた基盤整備は必要なのである。Macの創造性をきたてた自由度は、教育現場でこそ威力を発揮するのである。我々教育現場に身を置くものは、School PriceあるいはAcademy Discountを熱望していることを知ってもらいたい。

Naoki YUZAWA

## Macからマックへそして“まっく”へ

誤解を招くといけませんので、初めに私のポジションを明確にしておきます。私はパワーユーザではありません。単なる好奇心の塊であるだけです。128KBのMacintoshを手に入れたのも、それだけの理由からでした。

仕事はミニコンでしかもアセンブラで制御系のプログラムを作っていました。従ってMacは仕事の上でも、必要としてはいませんでした。趣味としては、やたらお金を喰ひ続けるMacは適当なものかも知れません。趣味は実益と共存するものではないからです。

ごく最近ついにHexを、購入しました。これも動機はカラーでゲームがしたいのと、シュミレーションゲームではもう少し早いマシンが欲しかったからです。

仕事に關係する文書作成やネットワークへのアクセスにはMS-DOSマシンを使用していました。日本での標準といわれるそれが最適とは思えませんが適当な選択でした。

Hexの所有はゲームをする上で最適判断であったと思います。これだけの能力を持つマシンであれば、今まで仕事の部分を担当していた領域もカバー出来るのではと、期待を抱くようになりました。

Macintosh Plusの時代(私のMacも128KBから多くの資金をつぎ込み、Plusまで成長しています)にも何回か仕事への適用を試みた事があります。しかしそれはゲーム程、楽しいものではありませんでした。仕事だから、だけでは、ないようです。表示される日本語を見ると、自分を鏡に写したように憂鬱になるのです。

現在のMacintoshが日本に適應しているか私は正確に把握しているわけではありません。もしかすると既にMacはマックから、まっくへ到達しているのかも……その時が早く、来る事を望んでいます。

高野 宣考

はっきり言って、日本におけるマックの値段は高すぎます。マックがほしいのに高すぎて買えない人がたくさんいます。どうして米国と同じ値段にできないのでしょうか。法外な低価格は要求しませんが、米国と同じぐらいの定価を付けることは難しいのでしょうか。

もし全体的に値段を下げる事ができないなら、特定の製品だけを下げる方法もあるでしょう。どれを安くすべきかという。Mac PlusとLaser Writer II SCです。安い本体と解像度の高いプリンターの組み合わせで、できるだけ安い値段を設定しなければ、漢字環境ではマックの良さを発揮できません。そしてスーパ定価は、Mac Plusが2MBメモリで248,000円、LaserWriter II SCがSCSIコネクタ込みで398,000円、というのが妥当な線ではないでしょうか。もちろんもっと安くてもかまいませんが、この値段を越えてはいけません。

それと日本のサードパーティを活性化し、ハードディスクなどの周辺機器を低価格で出させることも忘れないでやってください。日本では米国から輸入した周辺機器がマック本体に負けにくいぐらい高い値段で売られています。やはり周辺機器は、ハードの得意な日本で作った方が安く良いものができるでしょう。

もうひとつ大切なことがあります。日本では、マックというマシンを知らない人があまりにも多すぎます。知られていない原因はいろいろありますが、その中のひとつに広告の下手さが上げられます。もっとマックの良さを伝えるような広告ができないものではないでしょうか。ただ単にマック本体の写真を載せ、どうでもよい文章が脇にあるだけの広告では、マックの良さは伝わりません。より具体的な機能を紹介する広告を増やすべきだと思います。

マックは、ここ1・2年が勝負になるでしょう。日本のメーカーは単機能の製品をより低価格で出し続けるでしょうから、もたもたしていると日本から撤退ということにもなりかねません。ここ1・2年は、攻撃的な価格設定やサービスなどで、勝負をかけてください。

Kazuma Kawamura



## Apple社 ジョン・スカリー会長 殿

親愛なるスカリー会長殿へのお便り

私は、日本にてマスターネット株式会社と言うネットワークのMac SIGの中のPDSボードのシオベをされているものです。現在、我々はアメリカから「BMUG」などの最新PDSをSIGにアップロードさせていただいております。そして、最新のPDSがネットワークを通じてほとんどタイムラグ無しで日本に紹介されています。第1にアメリカと日本の製品のタイムラグについてです。

言うまでもなく、世界は通信システムによって時間のロス無く情報の伝達が行なわれております。アメリカのMacOSのシステム7.0の情報も、発表後日本のネットワークを駆け巡ります。そして、日本のMacユーザは溜息を付くのです。

「どうせ、漢字版システム7.0は、アメリカより半年はあとさ!!」日本のMacユーザのほぼ100%がそう思っています。まず、このタイムラグを無くしていただきたいです。又は、英語システムでの最新バージョンが日本でも、即座に提供されることをお願いいたします。

今後の日本でのMacの営業を本格的に考えるなら、製品のタイムリーな発表と販売時期はアメリカと同じに考えるべきだと思います。Macはごく一部のマニアのためにあるものではなくて、世界中の人のためにあるマシンです。英語文化圏でない、日本でMacが成功を収めようとしていますが、その事実にお気づきでしょうか？

第2に、製品の価格についてです。日本でのMacの価格がアメリカと違って高い価格設定がされていることは、ご存じだと思います。いつまでこのようなことをお考えでしょうか？

日本のMacの専売ショップではMacのみで販売をすることは難しいことは、誰もが知っています。(まあ、高く売るところもあります)これは、Macユーザにとっては、大変な問題なのです。アメリカと違いまして、ネットワークに所属しないMacユーザは販売店に情報頼りなざるを得ません。その販売店が積極的にサポートしたくないような商品(利益がないという意味です)では、Macの発展は望むべくもありません。

つまり、ショップにとりましてはユーザにとりまして、魅力ある価格の設定をしていただきたいのです。少なくとも、アメリカと日本のMacが数十%の価格差が出るような、価格の設定をしていただきたいありません。それが、いってApple社の発展にも繋がり、我々Macを愛するものの新しい絆になるものと信じて疑いません。

第3にアカデミープライスについてのお願いです。先日、ある理科系の大学生を捕まえて、Macを知っているかという質問をしましたら、何と! 知らないのです。理科系大学生がMacを知らないという事実を会長はどうお考えですか？

アメリカでの大学のMacの普及率を考えますと、日本ではさきみしい話です。従いまして、一日も早く日本でのアカデミープライスを実施していただきたいをお願いをするものです。

以上ご検討をお願いいたします。

aag 371 ビエロこと 鈴木 公美

アップルは野山に自生するリンゴでした。少し酸味が強くても形も均一ではないけれど、自然の中で育まれたそれは、大量生産、農薬づけのリンゴ園ではおよそ真似出来ない捨てがたい野趣があります。我々が絶対に失ってはならないものなのです。野山でアップルに出会ったものは、鳥であろうと熊であろうと、そうした大地の恵みにあづかるのです。

今種まきは終わりました。いや、それを口にした誰もがその味を忘れられなくて、まだ味わったことのない人にもその感動を分かち合いたく、それぞれが種を育てているのです。自宅の庭先やベランダの鉢植えで。野生の植物はそう簡単には育ちません。でも皆が一歩懸命に情報交換し合い、ある時は交配を繰り返して、増やしていくメロがようやくついてきたのです。それこそ本当に草の根の手作りの運動でした。

しかし、増えてきた2世代、3世代のアップルの味はなんか変です。心なしか青くなってきました。手のひらに収まってきたのが、両手でかかえるほどに肥大化してきました。もう野生のアップルではないのですか？

Ryoji KASAI

## 拝啓 スカリー会長様

私は日本の熱心なマック愛好者です。今回あなたに一筆啓上する機会をバスケさんの御好意で与えられましたので、日本に於けるマックをとりまく環境と今、私があなたに期待していることを書きたいと思います。

何故日本でマックが売れないのか? 売れていると思いますか? 然り。でも、本当なら今の十倍も売れていたかもしれませんよ。アップル社はその機会を失ってきたのではないのかというのが私の実感です。

何故日本でマックが売れないのか? ユーザの目から見ればその原因は今までの販売政策のせいとしか思えません。私は以前、国の研究所に勤務していましたが、研究室にコンピュータをいれることになった時、マックは今、日本で手にはいる最高のパーソナルコンピュータだと思い、これを導入しようとしたが、売り手に商品知識がないこと、つまり万一のトラブルのさいの対応に不安があったことや、価格が高すぎることから導入することはできませんでした。

シムエラーの多発するといわれるマックでは、技術的に信頼できるディラーの存在は極めて重要です。また、その価格がアメリカのそれに比べて高いと思います。日本語化のために多大の費用がかかるのか、日本人は高い物を有り難がるので価格設定を高くしてあるとか、報告がはいっているからしませんがだまされてははいけません。それはひとりの見かたで別の可能性も十分あると思います。今、日本用に漢字トークでローカライズされたマックが一台もなくて日本のサードパーティが作ったSweet Jamがありまして、これは漢字トークよりある意味では優れています。この漢字トークについてはスピード、アプリケーションとの相性等、改善すべき点が多く、今後を期待しています。もうひとつの点では消費者は常に安くより良いものを求めています。少なくとも単なるステータスシンボルとしてのマックでは世界を変えることはできませんよ。広く人びとにゆきわたり世界を変えるマシンはやはり安くなくては。

最近マックをとりまく風向きがよくなってきているようです。アップルジャパンもやる気がでてきたようです。しかしながら販売員、技術者を増やそうとしているのは大変良いのですが、あまりに英語力を重視しすぎていいるあまり、みすみす能力のある日本人を採用しそこなっているのではないかと感じています。どうぞアップルジャパンを適切に指導してこれらの問題点を解決させてください。なおアップル社のよき伝統であるハードのアップグレードサービスは是非続けてください。

平凡だが熱烈なマックユーザ Captainより

## 拝啓 スカリー会長様

私は自宅でMacintosh SEを、勤務先ではIlexを毎日使っている1マックユーザです。個人の創造力を拡張する道具というマッキントッシュのコンセプトが、見事に実現されていることに感嘆しつつ使っております。このような製品を開発し、提供してこられたアップルコンピュータ社に心から敬意を表したいと思います。

私はマッキントッシュで毎日大量の日本語を扱っています。今日は毎日マックを使いながら感じている要望を述べさせていただきます。

1. 漢字Talkと最新のソフトウェアとのコンパチビリティの向上

米国製の最近のソフトウェアで、日本語入力が入りづらいものが増えています。その多くは、現在の版の漢字TalkがText Edit 3.0をサポートしていないことが原因のようです。早期にサポートしていただけることを期待しています。

また、System 7.0で導入されるアウトラインフォントが、タイムラグなしに日本語でも使えることを期待しております。

2. 中位のプリント環境の整備

Laser Writer NTX-Jの登場により、ハイエンドの日本語出力環境は整いました。しかし、個人ユーザが手軽に日本語のプリントに使える高品質の

プリンターが欠けています。日本国内では360DPI程度の漢字プリンターがImage Writer IIと同じ程度の価格で販売されており、Laser Writer SCやImage Writer LQはコストパフォーマンスでかきません。SCの印字品質をもったプリンターがLQ以下の価格で提供されれば、個人ユーザのプリント需要は十分に満たされることになるでしょう。

3. 画面解像度の向上

これは次世代のマッキントッシュに対する要望ですが、画面解像度をあげていただきたい。日本語でWYSIWYGを快適に実現するためには少なくとも現在の1.5倍(108DPI)の解像度は必要です。12ポイントの明朝体がちゃんと表示されることは必須です。画面に表示される日本語フォントの質が低いことからマッキントッシュの導入をためらっているユーザはかなりの多数にのぼります。

SAKAKIBARA Totsu

## 日本のマックユーザからスカリー会長へ

私は、あなたの砂糖水からアップルに至るまでの軌跡を書いた自伝オディッセイを読みました。そこに書かれているあなたと、記述されているアップルという会社、そしてそれを支えてきた人達を考えると今自分が使っているMacintoshというパソコンが、MS-DOSマシンとは一線を画するものである理由がよくわかります。人間の個性も個人の創造性を高めるために生まれたものなんだと。

日本には、この辺のところをよく理解したMacintoshユーザが沢山います。日本語が走る前から、それをベラボウに高い値段で購入して(なんと512 K Macに100万円も払った人がいる!)、ひたすら使ってきたものもいる。自国の言語が動かないパソコンにこんな投資をする方はあなたの国にいますか? それもひとえにMacのユーザインターフェイスにそしてそれに支えられたソフトウェアに魅せられたからなんです。

いまや日本語も、漢字もちゃんと使えるようになりました。ますます日本でのMacは人気が出てきています。Apple Japanもずっと好意的に日本人に受け入れられやすいシステムになってきました。これは評価します。Macの値段もあなたの国でのそれと格差が少なくなってきました。どうかこの姿勢をずっと維持してください。そしてもっと風通しのよいAppleとMacになってください。そうお願いといえば、日本への情報の透過性をもっと限りなく透明にして欲しいことです。

Makoto Ozaki, M.D.

## To John Sculley

私はMacが好きです。外見のデザインも好きですが、人が操作しやすい環境のMac-OSが好きです。残念ながら、サポート体制が日本ではアメリカと違う点です。

1. アメリカでApple Hard Disk 40SC 40MBのリアルナンバー335507から1023016に問題があるの1990年6月までにディーラーに連絡してくれと発表があったが、日本では1ヵ月以上たってもなんの発表もない。
2. 日本最大の販売元Canonを始めとする数多くMac関連のディーラーは存在するが、大都市に集中し地方都市のユーザは情報入手することが少ない。おまけにExcel日本語版も正規購入の個人ユーザがユーザ登録してもアップグレードの連絡がディーラーには来ず個人には来ない。
3. 英語のOS (System 6.03 Finder 6.1 Multi Finder 6.0) は¥9,800で販売されているが、アメリカでは\$60でアップグレードしているのか? 日本語のOS (漢字Talk 6.0 System 6.02 Finder 6.1 no Multi Finder) は¥12,800でアップグレードキットが販売されている。隣の国、中国ではSystem 6.03になっているのに日本のサポートの遅さが目立つ。

人間がComputerに合わせなければ操作できないMS-DOSに比べ、人間が人間でいられるMacが好きですが、まだ一部Computerに合わせる部分があります。もっと自由に操作できる環境 (System 7.0) の販売と各国語化を早くお願い致します。

From N. Kobayashi



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## Utilities and DAs

**33 SAM** (Symantec AntiVirus for Macintosh) (INIT/application)  
SAM is the best commercial anti-viral program. The package contains two parts: a hunter/killer application that finds and removes viruses and an INIT that lets you know when viruses are about to invade your hard-disk drive. You can configure the level of virus sensitivity and whether SAM should scan every floppy that's inserted. You can even teach the INIT about certain applications that legitimately perform actions that trigger an alert; once SAM has learned about them, it will not complain again. If free antivirals such as Disinfectant and GateKeeper don't meet your needs, SAM is definitely the way to go. Requires 512KE. \$99.95. Symantec, 10201 Torre Ave., Cupertino, CA 95014; (408) 253-9600.

**34 SUM II** (INIT/application)  
A hard-disk crash should be in the Top 10 list of Things You Don't Want to Occur. But if you do experience one, this data-recovery package is exactly what you need. It offers easy restoration of deleted files, hard disks, and floppies. In our experience, if SUM II can't recover it, it's gone. SUM II also contains a disk-backup utility, a data-encryption utility, a high-speed floppy copier (for unprotected disks only), disk-partitioning software, and a disk optimizer. If you buy a single utility for your hard disk, this is the one to get. It can protect your hard disk, and barring hardware failure, it can help you get any wayward data back. Requires 512KE. \$99.95. Symantec, 10201 Torre Ave., Cupertino, CA 95014; (408) 253-9600.

### Applications

**35 DiskExpress** (application)  
When you delete files from your hard-disk drive, places open up to receive new files but eventually spread throughout your disk. A newly read file is distributed among these scattered chunks of free space. Your hard drive's performance can degrade over time because the reading heads have to hunt for the fragments of a single file. DiskExpress can reorganize your disk's contents so that each file resides in one contiguous space, which significantly speeds up reading. It can also clean up your desktop file and write real 0s into "deleted" disk areas. Requires 512K. \$49.95. ALSoft, P.O. Box 927, Spring, TX 77383-0927; (713) 353-0490.

**36 FontSizer** (application)  
When you do serious page layout or want on-screen text to look its best, you

need a bit-mapped font for every point size you use. FontSizer helps build font bit maps, from 12 to 127 points, from Adobe or non-Adobe PostScript outline fonts. A LaserWriter does the actual imaging, but the result is a set of full-fledged screen fonts that aren't lumpy or jagged and match closely what you see in print. Build the faces and styles you use regularly for headline type, major headings, and decorative dingbats. It's a handy utility for those who can't use the Adobe Type Manager. Requires 1 megabyte and a 300-dpi PostScript printer (PostScript version 38 or later [Apple LaserWriter family]). \$99.95. U.S. MicroLabs, Inc., 1611 Headway Circle, Building 3, Austin, TX 78754; (800) 552-7654.

**37 Redux** (application)  
Backing up isn't high on anyone's list of favorite pastimes, but failing to do so can be disastrous. Redux is a fast, easy-to-use, and reliable incremental-backup program that takes most of the pain out of the process.

You can specify which volumes, folders, or files you want to back up (or restore). You can also save configurations so that every time you back up, only the documents you've marked and any that have changed since the last back up will be copied. Those users who need more-sophisticated procedures can use the program's filters to exclude certain files or create custom backup scripts in Redux's scripting language, BackTalk. Peace of mind may be the greatest gift of all. Version 1.5. Requires Mac Plus. \$99. Microseeds Publishing, 7030-B W. Hillsborough Ave., Tampa, FL 33634; (813) 882-8635.

**38 SilverLining** (application)  
If you're looking for a comprehensive hard-disk utility that might boost your disk's performance, you should take a look at SilverLining. This handy utility from LaCie is a hard-disk formatter, driver installer, partitioner, and optimizer. If you have a hard-disk drive and aren't sure that its current driver is giving you all the speed you want, you can install a SilverLining driver and adjust it to your hard disk. You can also create multiple partitions on your disk and password-protect each partition. The protection method is extremely difficult to circumvent. SilverLining can also unfragment your disk's contents and improve hard-disk response. Requires 512K. \$69.95. LaCie, 16825 S.W. 85th, Suite 306, Tigard, OR 97224; (503) 684-0143.



Volume 1, Number 2

# AUTOMOTIVE TODAY

## FORD'S NEW 1990 SIMULATOR



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## It mixes business with pleasure.

### Terrific graphics show off the cars...and show how they work.

Ford Motor Company has come up with a great way to show you its cars and trucks. The 1990 version of the Ford Simulator II is a major improvement over the popular original model. It's packed with data, simulation games and detailed graphics. And this year's model is available for Mac as well as IBM and compatibles.

The new graphics are right out of a showroom brochure, and depict the cars in all their glory. Animated screens demonstrate various features of the cars. For example, you'll see heated windshields melt snow, air bags inflate, and supercharged engines propel automobiles down highways.

### Exciting games put you in the driver's seat!

Don't get us wrong; this software isn't only information. This year, there are three exciting driving simulation games, each with three

levels of driving expertise.

*Test Track* offers a drag strip; a track inundated with tight turns; and an obstacle course littered with pylons. *City Challenge* lets you wind your way through traffic en route to your choice of a downtown area, a shopping mall or the airport. And *Back Roads* puts you on an easy-going byway, a twisting blacktop, or a two-lane road that

requires you to maneuver around slow-moving trucks.

And you can play the games with a mouse or a keyboard.



### An easy way to get the facts about our vehicles.

For 1990, the Ford Simulator menu contains almost every model produced by Ford Motor Company, from the Ford Festiva to the Lincoln Continental. For each, you'll see the manufacturer's suggested retail prices, passenger and cargo



capacities, available models, engines and transmissions, estimated fuel economies and more.

### A friendly spreadsheet helps you figure out the cost of your dream car.

Once you select the right car or truck for you, the "Buyer's Guide" lets you add options. When you're done, you can use the "Spreadsheet" function to compute monthly

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Model MSRP	\$15,400
Option Package	\$ 245
Additional Options Total	\$ 000
Destination and Delivery Charges	\$ 455
Dealer Lot and Prep	\$ 600
Sales Tax - 6.5%	\$ 1,002
<b>Total Dealer Price</b>	<b>\$17,702</b>
Estimated Down Payment	\$ 3,000
Estimated Trade-in Allowance	\$ 2,000
<b>Net Finance Amount</b>	<b>\$12,702</b>
Annual Finance Rate	7.9%
Number of Months to Pay	36
Total Estimated Finance Charge	\$ 1,638
Estimated Monthly Payments	\$ 400

payments.

In short, the 1990 Ford Simulator II lets you do just about everything but drive out of the showroom. And it costs just \$6.95; at this price, the Ford Simulator may just be the best buy in the auto industry!

The Ford Simulator II requires a Macintosh 512K, Plus or SE (800K), or an IBM or compatible PC (with at least 512K and color graphics).

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My disk drive size is ☐ 5 1/4" ☐ 3 1/2"

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**We would appreciate it if you would provide the following information:**

1. Please indicate what vehicle you are currently driving:

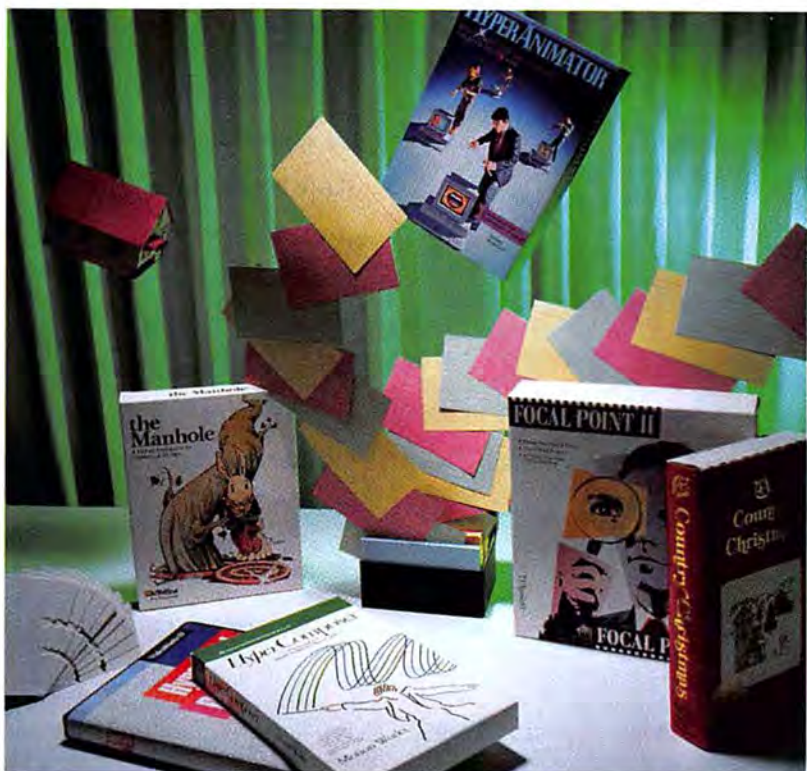
Year \_\_\_\_\_ Make \_\_\_\_\_ Model \_\_\_\_\_

2. When do you plan to buy your next new vehicle?

☐ Within 3 months ☐ 4-6 months ☐ 7-12 months  
☐ 1-2 years ☐ No plans within 2 years







# Hypermedia

**H**yperCard got some serious competition with the introduction of SuperCard from Silicon Graphics and Plus from Olduvai (see StartUp, November '89). But most of the hypermedia action focused on HyperCard — it was used extensively as an interface for CD-ROM and videodiscs. There were more — and better — HyperCard selections too. Activision Entertainment introduced a delightful interactive adventure, Cosmic Osmo, now on six disks, and soon to be on CD-ROM. There were also exciting HyperCard-driven educational videodiscs (see “Best

18 Education Products” in this issue) from ABC News InterActive (In the Holy Land, Martin Luther King, Jr., and The '88 Vote, Campaign for the White House) and Newsweek (Upheaval in China), among others. Yet to many people, HyperCard is mainly an engine for creating software, and they are always looking for tools to make that task easier. We've tried to include something for everyone — entertainment, ready-to-use stacks, and utilities that give serious programmers power. You'll recognize many of these from past issues, but we've also included some hot new items.

## Entertainment

### 1 A Country Christmas

'Tis the season for A Country Christmas stacking, where children can have a snowball fight, chop down and decorate a Christmas tree, or read an animated *'Twas the Night Before Christmas*. There's a book of favorite Christmas carols you can play with the instrument of your choice — piano, guitar, violin, and others. Visit the children's rooms and explore a Victorian dollhouse or ride a toy train with a mouse engineer. Click on the gingerbread house in the welcoming kitchen and you'll get recipes and directions for making your own gingerbread house. Discover other projects such as making Christmas cookies, dough ornaments, sachets, and other gifts, and enjoy other Christmas sounds and sights. \$34.95. B & B Soundworks, P.O. Box 7828, San Jose, CA 95150; (408) 241-7986.

### Cosmic Osmo Manhole

**2&3** Activision Entertainment cornered the HyperCard entertainment market with Manhole and Cosmic Osmo (see Scrapbook, August '89), interactive adventures for the young and the young at heart. First came Manhole, with its beanstalk that



snakes its way heavenward to the giant's castle and a whirlpool that takes you to a sunken ship on the bottom of the sea to dance with sea horses. Then Cosmic Osmo appeared with his spaceship for otherworldly travel (four worlds in this release), with even more to see and do. Take a submarine ride from a kitchen sink to a desert island or quietly assemble a jigsaw puzzle. Blast away in an arcade-type shooting game, create a masterpiece on an easel, or just enjoy the opera-singing catsup bottle. A CD-ROM version, promising three new worlds, more music, and games, is scheduled for release by this January.

In either of these adventures, you maneuver by using HyperCard's buttons, hidden or otherwise — clicking on almost any spot can take you anywhere. Whether you plumb the depths with Manhole or space out by Osmosis, you're in for quite a fantastic voyage. Manhole is available on a five-disk set or on a CD-ROM with an original musical score. Cosmic Osmo is on six disks. Manhole disks, \$49.95; CD-ROM, \$59.95. Cosmic Osmo, \$69.95. Activision Entertainment, 3885 Bohannon Drive, Menlo Park, CA 94025; (415) 329-0500.

### **4 HyperComposer**

Make your own kind of music with HyperComposer, The Sound and Music Toolkit by Addison-Wesley's Motion Works. HyperComposer automates scripting so you can tickle a four-octave keyboard or compose on a musical staff. You can view and print your creation as HyperTalk music or as a musical score. But you can produce only melodies — no chords allowed.

A mouse click selects notes, duration, and rests. Your composition appears in a scrolling window. HyperCard is limited to 256 notes for playback, but HyperComposer extends that to 11,000.

You can select instruments as well as import and export sounds and musical compositions from a pop-up menu. Newly imported sounds are automatically added to the voice list, which initially includes 36 voices or instruments ranging from a harpsichord to drums to woodwinds. This feature is useful for getting tunes and sounds into your stacks, but if you're serious about composing on the Mac, you'll need to look at more-sophisticated packages (see "Best 6 Music Products" in this issue). \$69.95. Addison-Wesley Publishing Co., Route 128, Reading, MA 01867; (617) 944-3700.

**Y**ou can insert any of HyperAnimator's 'talking actors' (or one of your own) into a stack, where you create buttons to access it and a field where you type what you want it to say.

### **Productivity**

#### **5 AE Operator**

Start your day with AE Operator, an organizational and marketing-information system from Archaic Engineering. Turn on your Mac, and a list of the day's appointments and deadlines appears on your screen. AE Operator's six stacks — Phone, Notes, Alarm, Diary, Price, and User — can replace your Rolodex, message pad, and price list. It has auto-dialing and time-stamping features, three types of alarms, mail-merge, and sorts, as well as data import and export. You can launch other applications and files from within the stack. The stack also contains a spreadsheet for estimates, lists, or quotations.

AE Operator has a unique multiuser status feature for up to six people who share computers; AEOperator keeps each person's records separate. It may not have all of Focal Point II's bells and whistles, but it may be just what you need. \$125. Archaic Engineering, 222 Bartlett, Suite 104, El Paso, TX 79912; (915) 833-5675.

#### **6 Focal Point II**

If you're a stickler for organization, such as timing things to the minute, and you want extra bells and whistles, then try Focal Point II (see HyperSpace, April '89) from TenPointO. Focal Point's 18 modules handle appointments and to-do lists, create telephone directories, log calls, set alarms, record time and materials billing, and calculate expenses, among other functions. It has a built-in electronic-mail system, a Task Manager for tracking projects, and all the linkage you'd ever want. It has a variety of print options, but printing is a slow process. Requires 1 megabyte of RAM, a hard-disk drive, and HyperCard 1.2.1 or later. \$199.95. TenPointO,

3885 Bohannon Drive, Menlo Park, CA 94025; (415) 329-0500.

#### **7 HyperFinance Payroll**

If you're in the market for a payroll system that contains a complete employee-payroll database and has features that calculate employee time cards and W-2 information, consider HyperFinance Payroll. It includes payroll, payroll database, and time-card stacks. You can produce pay-period summaries, W-2s, payroll checks, earnings records, and more. Requires Activision's Reports 1.2 or later. \$99. The Electronic Desktop, 508 N. College, Suite 108, Bloomington, IN 47401; (812) 339-7270.

#### **8 Reports**

Reports (see Quick Clicks, August '88) is still the product of choice when you want to do more than rudimentary printing of cards and stacks in HyperCard. It lets you design complex layouts and select cards based on criteria such as the contents of individual fields, items, or works; operators such as greater or less than; or a combination (up to 16 separate tests). Selected information can be sorted on five levels. You can produce multi-column reports, paste and rearrange graphics, choose fonts and styles, and create templates. Version 1.2.2 (free upgrade), compatible with HyperCard

#### **9 XCAL**

It's not a spreadsheet, but it looks and acts like one. XCAL from Trendware is easy to install in a HyperCard stack, where it is activated through the regular HyperCard menu bar. XCAL places an adjustable grid that forms rows and columns over your card. The rows and columns form cells, just as in a spreadsheet — click on a cell, and you can create or change a formula in the Formula Editor. XCAL links formulas to HyperCard objects so you can move fields and buttons, and their associated formulas go with them. It performs searches and calculations on one or more cards, based on your selection criteria. XCAL has many automatic functions, useful tools, and macros and supports color dialog boxes. \$149.95. Trendware Corp., P.O. Box 2285, Huntington, CT 06484; (203) 926-1116.



# Chart New Waters...

Creating charts on your Macintosh® has been like sailing without a compass. You've drifted aimlessly from your spreadsheet, to dedicated charting programs, even to your drawing program, frustrated because the right tools for the job weren't available. Until now.

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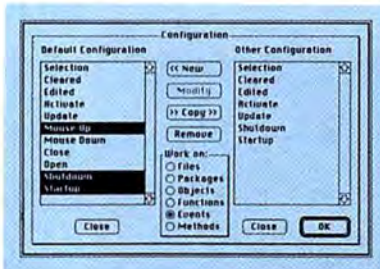
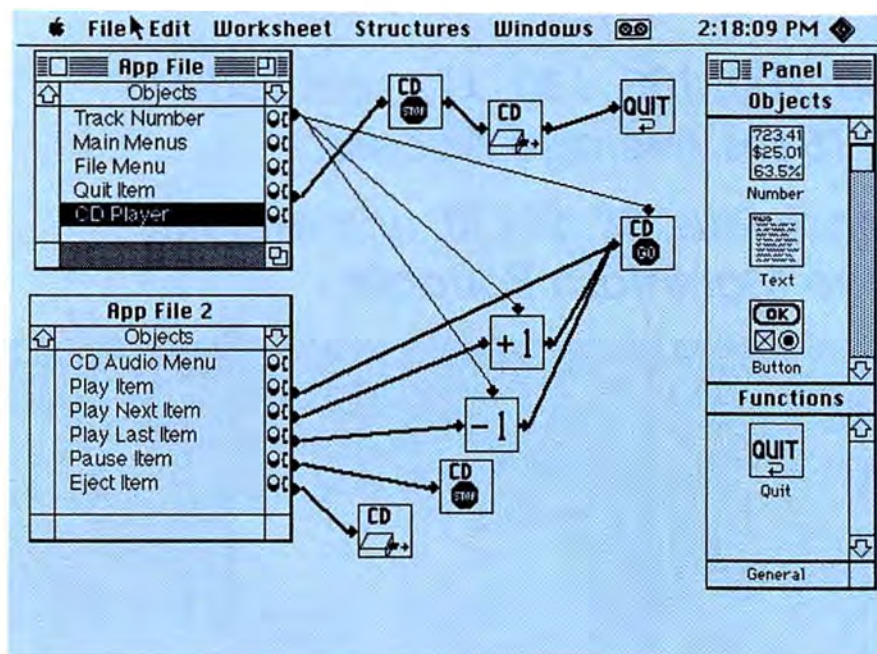


Requires One Of These...





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palette of programming components easy to identify, easy to use and HyperCard® compatible. As fast as you can select icons and link them together on the screen, Serius89's Object Interaction Protocol™ connects the chains of functions and converts them into a bug-free application.

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## Hypermedia

1.2.2, provides a new Reports pop-up menu for immediate access to a Reports layout (rather than going through the Report Card). \$119.95. HyperWare from Activision, 3885 Bohannon Drive, Menlo Park, CA 94025; (415) 329-0500.

### Utilities

#### 10 Bag-O-Tricks

Bag-O-Tricks is a freeware collection of XCMDs and functions for building HyperCard stacks. These stacks contain more than 40 useful items, which are divided into five categories: Function, XCMD, XCFN, Serial Routines, and String Routines. There's WrapLoc for line wrapping, HPopUpMenu for hierarchical pop-up menus, and ShellSort for sorting lists delimited by a character. Look for Drag-Objects, FlashObjects, and uniqueness. Group is Wing Eng's version of the popular Groupies XCMD. An Install button makes it easy to put commands into your stacks. Bag-O-Tricks is available through InterNet ([winge@sco.com](mailto:winge@sco.com)), or you can send \$3 to Wing Eng, 339 Chilverton, Santa Cruz, CA 95062.

#### 11 HyperAnimator

Try the interface of the future now. In HyperAnimator from Bright Star, there are talking actors (also called agents), each of which has 16 images with eight facial expressions and seven lip positions needed for creating specific sounds — *f*, *m*, and *ah*, for example. HyperAnimator has nine actors, but you can create your own in the Dressing Room. A finished actor can be inserted into a stack, where you create buttons to access it and a field where you type what you want it to say — the program translates your text into phonemes.

This is the only product that brings this type of sound capability and animation to the Mac. Bright Star recently released the RAVE Driver Installer, a run-time driver that binds a special version of the RAVE driver to stacks, so that stacks including HyperAnimator actors can be distributed royalty-free. HyperAnimator, \$199.95; RAVE Driver Installer, \$19.95 (for registered owners of HyperAnimator 1.5). Bright Star Technology, Inc., 1450 114th Ave. S.E., Suite 200, Bellevue, WA 98004; (206) 451-3697.

#### 12 HyperDA

HyperDA, from Symmetry, is a workhorse among HyperCard utilities. For example, Claris' on-line help for MacWrite II is a HyperCard stack. And it's HyperEngine, from HyperDA, that makes it possible to open the stack from within MacWrite II. For personal use, HyperDA lets you browse through HyperCard stacks while you're in another application or in the Finder. You can search stacks, type in HyperTalk commands, and copy graphics or text to the Clipboard. Now HyperDA can open a stack in a resizable window. Version 1.2, which was previewed at the Macworld Expo in August, allows you to modify text fields — you could only browse before. \$89 (upgrade, \$15). Symmetry, 225 E. First St., Suite 107B, Mesa, AZ 85201; (602) 844-2199.

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## 13 HyperWindows

Bring color to HyperCard with HyperWindows from Tulip Software, a set of XCMDs that enable you to place full-color pictures in windows over your HyperCard stacks. These windows can be different types—scrollable, borderless, boxed, or transparent. Size and location of the windows are set by your scripts. Simulate color on a card with a borderless window, make pictures larger than card size, show pictures in front of a card, and retain access to the buttons behind the window. The XCMD installs quickly with HyperWindows Installer—to access windows, though, you must write scripts. \$59. Tulip Software, P.O. Box 3046, Andover, MA 01810; (508) 475-8711.

## 14 ScriptEdit

Whether you're new at HyperTalk scripting or an old pro with many stacks under your belt, you'll find many useful features in ScriptEdit from Somak. ScriptEdit is a DA that provides quick access to scripts; tools for creating, revising, and printing scripts; and an easy way to compare them. ScriptEdit lets you have several windows open simultaneously (subject to memory limitations) to let you review scripts in one window and compare or copy them to another window. The editing window lists the buttons, fields, and scripts of the selected stack.

When you open a script, an object window appears that gives you information and options—messages and commands, for example, that can be added to the script with a simple selection. You can cut, copy, and paste, and you can undo your last change in each open edit window. ScriptEdit has page setup for printing; font, size, and window selections for each script; and extensive Find functions—you can search and replace through one or more scripts and through objects and cards, using whole-word and match-case criteria and more. It has automatic tab/space conversion and opens any standard text file. \$79. Somak Software, Inc., 535 Encinitas Blvd., Suite 113, Encinitas, CA 92024; (619) 942-2556.

## VideoWorks II HyperCard Driver

## 15 MacroMind Director

HyperCard lets you add a little life to your stacks with simple animation, but you can add a lot more with the VideoWorks II HyperCard Driver or MacroMind Player. After installing the VideoWorks II HyperCard Driver XCMD in any stack, you

## SuperCard SuperEyecons!

**16** SuperEyecons! for SuperCard gives you 500 icons to liven up your projects. Find pointing fingers, question marks, and a bow and arrow in the Arrows category; file cabinets, disks, charts, and phones in Business; and on/off, slide, and push buttons in Switches. There are file cabinets with drawers that open, spinning globes, and even a sinking ship in the nicely animated selection. The Rest category contains planes, musical instruments, an eight ball, holiday motifs, a stoplight, a fire hydrant, and even state flags. The icons are easy to install; simply open the SuperEyecon! window from within your project, highlight the desired icons, and click on the transfer button. The buttons and their resources are automatically transferred to your project window. SuperEyecons! is available from Heizer's new SuperCard Exchange. \$15. Heizer Software, P.O. Box 232019, Pleasant Hill, CA 94523; (415) 943-6882.

can play VideoWorks movies in that stack. Full color and the ability to preload a movie, play specific frames at specific screen locations, and play repeatedly—these features give you a lot of control over the animations in your stacks.

MacroMind Director has MacroMind Player (it should be available by the time you read this), which gives you these capabilities and more control over color palettes and resident sound resources. There's an accelerator to speed up playback of movies for digital-video-quality animations. To purchase these products to use only with HyperCard would be extravagant, but adding the Driver to VideoWorks II is reasonable. If you need Director anyway, you'll get the HyperCard connection along with it. VideoWorks II, \$295; VideoWorks II Accelerator, \$195; VideoWorks II HyperCard Driver, \$99.95; MacroMind Director with MacroMind Player, \$695; MacroMind Director Accelerator, \$195; upgrade from VideoWorks II to MacroMind Director, \$425. MacroMind, 410 Townsend St., Suite 408, San Francisco, CA 94107; (415) 442-0200.

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# Education Products

**T**he dividing line between education and training can be nebulous at times, so instead of arbitrarily sorting products into one category or another, we've decided to lump them together. We chose programs for their quality of presentation, content, ease of use, and ability to engage users. They're divided into three categories — academic programs, children's education, and computer tutorials.

PHOTOGRAPHY: PETER ALAN GULLO

## Academia Business Simulator

**1** Given \$500,000 to start a new company that produces a small, friendly household robot called PetBot, can you be more successful than your competitors — Apple Computer, Tandy, Hewlett-Packard, and Texas Instruments? Business Simulator, an executive-training simulation game, gives you the chance to carry a company successfully through its growth periods, establish it as the market leader, and amass the largest net worth among the competing CEOs. You get information on which to base your decisions from a newspaper called *Business Journal*, your company's annual report, and memos. Business Simulator is easy to play, but the

decisions become more difficult over time. It's a good way to get a feel for running a company and learning some of the pitfalls before you lose real money. A two-player option lets you compete with a friend instead of the computer. Requires 512K of RAM and two disk drives (one must be 800K). \$69.95. Electronic Arts, 1820 Gateway Drive, San Mateo, CA 94404; (800) 245-4525.

## The '88 Vote, Campaign for the White House

**2** ABC News originally thought of The '88 Vote interactive videodisc as a way to give newscasters quick access to campaign information but soon realized that the project could also have a tremendous effect on education. So ABC News teamed up with Optical

Data, formed ABC InterActive, and started distributing the videodisc to the school market. The '88 Vote presents the key elements of the '88 presidential campaign — from the announcements of the candidates through the conventions and presidential debates to the excitement of election night. Peter Jennings and political editor Hal Bruno provide editorial comments and analyses. The package includes HyperCard stacks that allow teachers and students to navigate easily through the vast collection of information, graphics, and sound stored on the disc. ABC InterActive plans to release several other videodisc packages this year. Requires 1 megabyte, a hard-disk drive, videodisc player, video monitor, and LaserTalk interface





*Illustration created in Swivel 3D by Joe Sparks.*

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## Education Products

### Sensei Science

#### 3 Sensei Calculus

This practical program includes more than 300 problems and is an excellent study tool for an introductory calculus course. Sensei Calculus is filled with explanatory material, diagrams, and animated simulations to help make the subject more understandable. Difficult topics have reference pages and hints, and solutions are available for problems. The easily accessible table of contents and index let students skip through topics as they choose.

#### 4 Sensei Geometry

Great animation and explanatory material make this program a perfect complement to a geometry course. There are ten chapters, covering topics such as congruence, polygon area, and coordinate geometry. The numerous prob-

lems — which emphasize proofs — and detailed reference pages help clarify abstract information. Sensei Geometry also includes an extensive review of all its material. As with the other Sensei programs, a little exploring will take you into a "negative zone," where unusual things can happen.

#### 5 Sensei Physics

Sensei Physics from Broderbund Software is a intriguing blend of instructional materials, examples, problems, and animated experiments on topics typically found in an introductory physics class. It includes 12 chapters on topics ranging from vectors to the nature of light. The animated demonstrations make complex topics entertaining and easy to understand. There are more than 300 problems with hints and solutions.

All require 512K. \$99.95. Broderbund Software, 17 Paul Drive, San Rafael, CA 94903; (415) 492-3200.

cable. \$395. ABC News InterActive, Optical Data Corp., 30 Technology Drive, Box 4919, Warren, NJ 07060; (800) 524-2481.

#### 6 LXR•Test

This test-generation software gets high marks for ease of use and functionality. It combines page-layout, word-processing, and database features with statistical and prescription tracking. This helps teachers design and prepare tests as well as score the results. With LXR•Test you can choose font styles and sizes and mix text and graphics to create a test layout. You can also choose a standard test format, such as multiple choice or true/false. LXR•Test can automatically generate a test or scramble selected questions to create different versions of one test. Requires a Mac Plus or later and two 800K disk drives or a hard-disk drive. Basic Edition without scoring abilities, \$499; Scoring Edition, \$799. Site licenses are available. Logic eXtension Resources, 9651-C Business Center Drive, Rancho Cucamonga, CA 91730; (714) 980-0046.

#### 7 Practica Musica

This sensational interactive program helps with ear training and music theory. Practica Musica includes several excellent games that teach the theory of intervals and chords as well as ear training for intervals and melodies. A practice mode lets you play with melody and harmony.

Practica Musica tracks your progress on the drills, so you don't have to start from scratch. It also helps you learn from your mistakes by providing written and visual explanations of them. Requires 512K. \$125. ARS Nova Software, P.O. Box 40629, Santa Barbara, CA 93140; (800) 445-4866.

#### 8 SimCity

In SimCity, you can do more than fight City Hall — you *become* City Hall. In this "edugame," you're the mayor of a city. Your task is to build and maintain this city while keeping within budget constraints. You have to pay attention to all of SimCity's graphic indicators to keep track of items such as the demand for residential and commercial units. You'll also become acquainted with other problems such as traffic buildups or a monster running loose in the city. You get instant feedback on your performance through the Evaluation Window. Beginners frequently run out of money. You can resolve this by raising taxes (and risk losing residents) or embezzling (see review in the Scrapbook section, June '89, for a quick how-to). Black-and-white version, \$49.95; color version, \$74.90. Requires 512K. Maxis Software, 953 Mountain View Drive, Lafayette, CA 94549; (415) 376-6434.

#### 9 Voyager

The Voyager program puts the universe at your fingertips. This interactive



desktop planetarium lets you map the sky and explore the heavens. The core of Voyager is a 14,000-object database, which includes more than 9,000 stars, 3,000 deep-space objects (galaxies, clusters, and nebulae), 88 constellation outlines, the 9 planets of our solar system, and the major moons of Jupiter. The program re-creates the sky at any time from 1000 B.C. to A.D. 4000 and from any location, including locations outside the solar system. Any object in the sky can be identified by a mouse click. Requires 1 megabyte and two 800K drives or hard-disk drive. \$99.50. Carina Software, 830 Williams St., San Leandro, CA 94577; (415) 352-7328.

### Reading and 'Rithmetic

#### 10 Alphabet Blocks

This pleasant set of programs teaches prereaders the letters and sounds of the alphabet. The simple screen includes a somewhat homely animated elf and a pile of blocks labeled with the letters of the alphabet. The elf asks questions and guides children to the correct answers. The elf's facial motions correspond to speech sounds, and the digitized voice is clear and pleasant. Children like it when the elf falls asleep if nothing's happened for a while. (A mouse click awakens him.) Requires 1 megabyte. \$79.95. Bright Star Technology, 1450 SE 114th Ave., Suite 200, Bellevue, WA 98004; (206) 451-3697.

#### 11 NumberMaze

In NumberMaze, children use basic math skills to work through mazes — some of which have invisible and disappearing walls. Geared for children ages 5 to 12, these animated puzzles provide practice in counting, addition, subtraction, multiplication, and division. The mazes incorporate both numeric and word problems, and the word problems can be personalized with names of familiar people. The levels of difficulty and the types of problems can also be changed. Requires 512K. \$49.95. Great Wave Software, 5353 Scotts Valley Drive, Scotts Valley, CA 95066; (408) 438-1990.

### Reader Rabbit and Math Rabbit

#### 12&13

With its delightful dancing rabbit and a series of games, The Learning Company offers two products to keep your four-to-eight-year-old child building math and reading skills. Each product has four games that prompt children to match images, letters, and numbers to learn basic reading and math. Great graphics, entertaining animations, and digitized music

and voices create an engrossing interactive environment. Reader Rabbit requires a 512K Mac or later and an 800K disk drive. Math Rabbit requires a Mac Plus with 1 megabyte of RAM and an 800K disk drive. Reader Rabbit, \$49.95; Math Rabbit, \$39.95. The Learning Company, 6493 Kaiser Drive, Fremont, CA 94555; (800) 852-2255.

### Tutorials

#### 14 HyperTutor

HyperTutor demonstrates the best features of HyperCard as it teaches you how to script. Each screen has a window that offers basic information on a particular command, a second window that shows the command's syntax, a "test Macintosh," and two icons. When you click on the eye icon, a window with examples appears, and when you click on the open-book icon, a Scripting Guide with detailed information for more-advanced programmers appears. The test Mac is a small Mac-within-a-Mac that appears in the lower right corner of the screen. You type and edit script commands on the test Mac's screen. Once you're happy with the script, you can test it by clicking on the body of the test Mac. The scripts perform just as if they were typed into a standard Macintosh. Requires Mac Plus or later with 1 megabyte and HyperCard version 1.1 or later. \$49.95. Power Up Software, 2929

### Just Enough Pascal

#### 15

Leave programming to the programmers? Not a chance. If you have Symantec's Just Enough Pascal, not only can you learn the Pascal programming language, but you'll also learn how to program for the Mac. In this interactive programming tutorial, the instructions section guides you through writing a stand-alone program, the GridWalker Project, and provides the source code to use in GridWalker. Instructions offer some tinkering ideas to personalize a project. Make a mistake in the code while tinkering? Just Enough gives you a thumbs-down to let you know about it. Requires Lightspeed Pascal, 1 megabyte, and System 5.0 or later; a hard-disk drive is strongly recommended. \$75. Symantec, 135 South Road, Bedford, MA 01730; (800) 228-4122.

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## Education Products

Campus Drive, P.O. Box 7600, San Mateo, CA 94403; (800) 851-2917.

### 16 LearnWord (Word 4.0)

Well, you've finally mastered Word 3.0, and then Microsoft releases 4.0. Instead of throwing up your hands in frustration, try the LearnWord series: a four-module training system that consists of cassette audiotapes, practice disks, and summary cards. You load Word and the practice disk into the Mac, put the tape into a player, push the play button, and you're off. The tapes guide you through the skills you need to know. Direct comparisons with Word 3.0 help you easily recognize new features. The series covers everything from the basics of entering and editing information to features such as setting up tables and customizing menus. Each module contains 90 minutes of training. Personal Training Systems also offers training modules for programs such as Excel, PageMaker, and Adobe Illustrator '88. Each module, \$49.95. Personal Training Systems, P.O. Box 54240, San Jose, CA 95154; (408) 559-8635.

### Mavis Beacon Teaches

#### Typing!

**17** Mavis Beacon is a well-organized typing tutorial that is geared more to children than to adults. Blackboards previews lessons and gives tips on learning or improving specific skills. Bizarre practice sentences break up the monotony of typing ordinary words. An arcade-game feature, Road Racer, turns typing practice into a race against another car. The bells and whistles — including a metronome; a clock; and meters that show accuracy, speed, and time left in the lesson — will appeal to younger typing students. Requires 1 megabyte. \$49.95. The Software Toolworks, 19808 Nordhoff Place, Chatsworth, CA 91311; (818) 885-9000.

### 18 Type!

If you're looking for a practical, interesting way to learn how to type, then Type! is for you. The program follows the standard system of teaching typing, which uses a series of drills that focus on specific keys, fingers, or common errors. As you type, the program keeps track of your speed, the number of errors you've made, and your progress and gives recommendations for the next practice lesson. You can set or change speed and accuracy goals automatically or manually. A typing game and a series of tests can be used to measure your performance. Requires 512K. \$29.95. Broderbund, 17 Paul Drive, San Rafael, CA 94903; (415) 492-3200.



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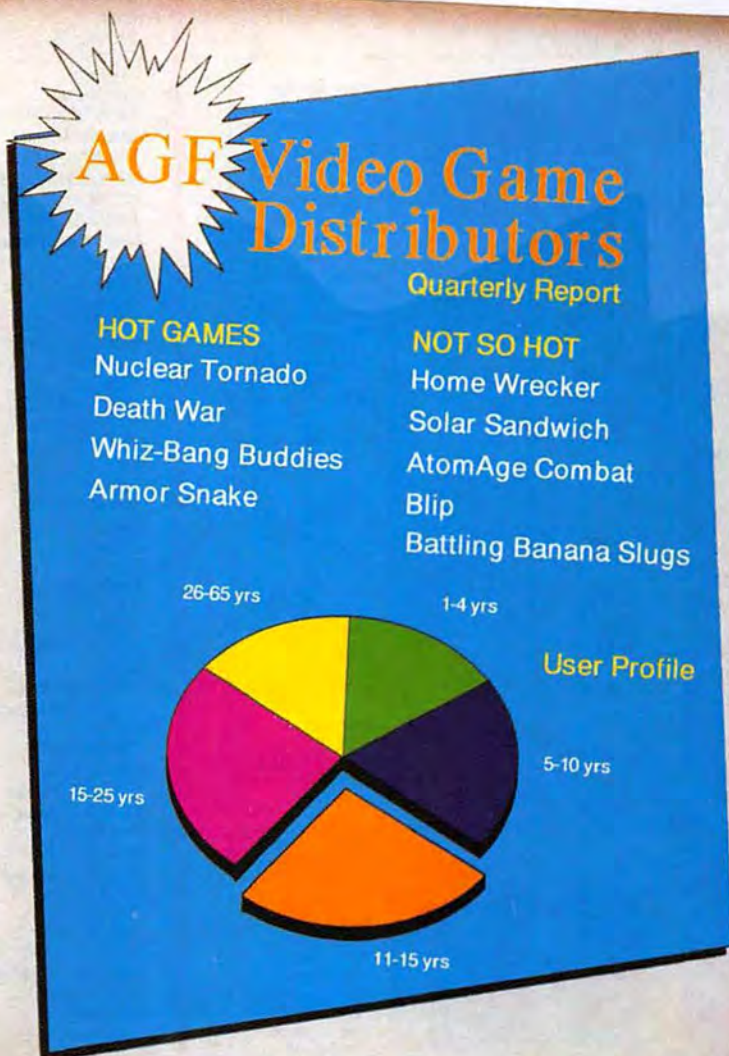
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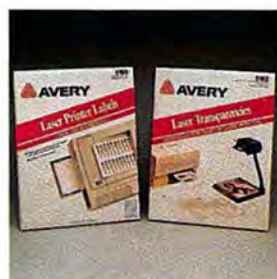
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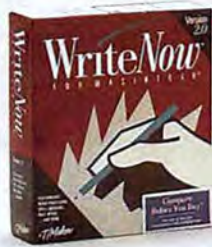
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1	Absolute 69								
2	Expenses	Ledger							
3									
4				5000	5050	5090	5100	5110	
5	Date	Reference	Total Entry	Wages	Wages Officers	Bonus	Advertising	Amort	
6	1/31/89	CDJ-1000	5,956.32	5,054.66	0.00	0.00	0.00		
7	1/31/89	PBJ-1040	9,059.64	3,859.64	6,000.00	0.00	0.00		
8	1/31/89	GMJ-0002	500.00	100.00					
9	1/31/89	MSJ-CP01	1,276.00						
10	1/31/89	MSJ-TBAJ	500.00	(800.00)		250.00		83.00	
11	1/31/89	MSJ-SI-1	92.50						
12	1/31/89	MSJ-TOTAL	15,384.46	6,214.30	6,000.00				
13	1/31/89	MSJ-SI-1	15,384.46	6,214.30	6,000.00				
14	2/28/89	WBJ-2100	2,556.50	1,000.00					
15	2/28/89	CDJ-1000	10,474.85						
16	2/28/89	MSJ-CP01	1,140.00						
17	2/28/89	PBJ-1040	9,385.50						
18	2/28/89	MSJ-DP-1	446.67						
19	2/28/89	MSJ-SI-1							
20	2/28/89	MSJ-AP05							
21	2/28/89	MSJ-TOTAL							
22	2/28/89	MSJ-SI-1	4,496.17						
23	2/28/89	MSJ-TOTAL	40,311.17						
24	2/28/89	MSJ-SI-1							
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29									
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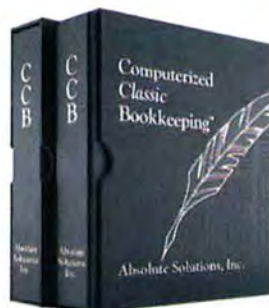
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# Games

**P**icking and writing about the best of anything can be a dicey proposition; no matter how you back up your choices, there's always someone who thinks you're crazy. When it comes to the best games, things can get even stickier — especially with games rewritten for the Macintosh. In the heyday of computer games, a game was typically developed on one platform and rolled over, more or less unchanged, to others. The rollover technique didn't work all that well for the Mac.

The games took little or no advantage of the Mac's strengths or its interface. Even now, few of the rollovers play as well as games written especially for the Mac. Today, the best Mac games are those that have been developed expressly for the Mac or programs such as Chris Crawford's *Balance of Power* that have been pretty thoroughly rewritten for it.



## Graphic Adventures Arthur: The Quest for Excalibur

**1** Mesh Infocom's excellent interactive fiction with interesting color graphics, on-screen mapping and hints, and the Arthurian legend, and you've got a winning combination. You are Arthur, son and true heir of the High King. But the sword in the stone — the symbol of your legacy — has been stolen by the evil King Lot. You have only three days to get it back. For die-hard text-only players, all the special features — graphics, hints, and mapping — can be turned off. Requires 512K. Color supported on the Mac II series. \$49.95. Infocom, 3885 Bohannon Drive, Menlo Park, CA 94025; (415) 329-0800.

## Deja Vu Deja Vu II

**2&3** Probably the first game to really take advantage of the Mac's great graphics was *Deja Vu*, Mindscape's story about a hard-boiled detective in which you play the private eye. After waking with a hang-over in a sleazy room, you spend your time trying to find out who you are, hanging around the less upscale parts of Chicago and going through people's pockets. *Deja*

*Vu II*, the Las Vegas version, is also worth looking at. You play the same character, equally hung over at the start, but this time you've been abducted by the mob. Requires 512K. \$49.95 each. Mindscape, 3444 Dundee Road, Northbrook, IL 60062; (312) 480-7667.

## Shadowgate Uninvited

**4&5** If your taste runs more to quests, monsters, and archaic weaponry, take a look at *Shadowgate* and *Uninvited*, also from Mindscape. Both programs have good puzzles, some well-used animation, and a mocking sense of humor. Many ways to die are included at no extra cost. Requires 512K. \$49.95 each. Mindscape, 3444 Dundee Road, Northbrook, IL 60062; (312) 480-7667.

## Arcade-Type/ Board Games

**6** *Arkanoid* is one of the more successful translations from the coin-op arcades, even though it doesn't have color. The game resembles a combination of *Pong* and *Breakout*: You move a paddle across the bottom of the screen, bouncing a ball into various "brick" configurations.



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Bits per Pixel: 32



Monitor: Apple® RGB  
Resolution: 640 x 480,  
Non-interlaced  
Bits per Pixel: 16



Monitor:  
Electrohome® 1210  
Resolution: 768 x 576  
PAL, Interlaced  
Bits per Pixel: 8



Monitor: SONY® 1302  
Resolution: 1024 x 768,  
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Bits per Pixel: 32



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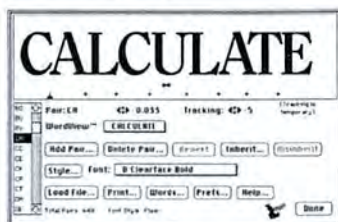
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## Games

The goal is to clear each screen (except for the impervious bricks). When hit, some of the bricks turn into spheroids with cryptic letters on them, which when caught give temporary but welcome powers (such as being able to blast away or slow the game down). *Arkanoid* is mysteriously addictive, and some of the higher-level screens have a high frustration component; you'll feel virtually omnipotent when you finally clear them. \$49.95. Discovery Software, 163 Conduit St., Annapolis, MD 21401; (301) 268-9877.

### 7 Crystal Quest

*Crystal Quest* was probably the first true arcade-type game designed especially for the Mac. The latest version of *Crystal Quest* (with *Critter Editor*) has removed the copy protection and added the ability to create your own monsters and digitized sound. You can also adjust the scoring, but you risk the contempt of game purists by doing so. Play is straightforward: Shoot the bad guys, pick up the "treasures" (smart bombs and extra points), and stay alive. All versions run in color if you have the necessary hardware. \$49.95. Casady & Greene, P.O. Box 261430, Carmel, CA 93922; (408) 624-8716.

### Dark Castle

### 8&9 Beyond Dark Castle

*Dark Castle* is an excellent Mac action game in which you have to leap, swing, creep, and brandish various weapons on your way to fortune or ignominious death. The sequel, *Beyond Dark Castle*, is not quite as good, chiefly because the game play doesn't introduce anything new, but if you liked the first iteration, the second is a good deal. Requires 512K. \$49.95 each. Silicon Beach Software, Inc., 9770 Carroll Center Road, Suite J, San Diego, CA 92126; (619) 695-6956.

### 10 Klondike

*Klondike* is a wonderful solitaire card game. You can choose to turn over three cards or one card at a time, you get points for cards played, and you're penalized two points for every 15 seconds that you hesitate. You can brush up on the casino version of solitaire too: \$52 for the deck and \$5 for every card built up on the aces. *Klondike* is a straightforward simulation of real solitaire, which may not sound like much to get excited about; however, this is an elegantly designed and realized program. You even get color suits on the Mac II. \$10 (shareware). Unison Software, 675 Almanor Ave., Sunnyvale, CA 94086; (408) 245-3000.



## Text Adventures

The all-time-best text adventures have come from Infocom (now part of Mediagenic). Their main components are excellent plots and puzzles and a wacky sense of humor, all of which have translated intact to every kind of computer from mainframe to Kaypro. To summarize the plots and action would be an article in itself, and there are so many that we're going to take them more or less together.

### Zork

#### 11&12 Beyond Zork

If swords and sorcery are your true métier, work your way through the Zork trilogy, the great-granddaddy of interactive text adventures. That plus the sequel, *Beyond Zork*, should keep you busy for a while.

#### 13 Planetfall

If you're only happy with a laser in your hand and the feel of a starship deck beneath your feet, try *Planetfall*, a personal favorite of at least one *MacUser* editor.

All require 512K. \$19.95 each. Infocom, 3885 Bohannon Drive, Menlo Park, CA 94025; (415) 329-0800.

### The Hitchhiker's

#### 14 Guide to the Galaxy

If you're a Douglas Adams fan, *The Hitchhiker's Guide to the Galaxy* is available on-disk too, but reading the books won't help you much past the destruction of Earth.

### Leather Goddesses of Phobos

15 You'll also want to take a look at *Leather Goddesses of Phobos*, notable as the first game to have an "adult" playing level and scratch-and-sniff cards.

## 16 Shanghai

Shanghai, a well-known addiction among Mac game players, is a board game using mah-jongg pieces that are laid out in the "dragon" pattern (squin; it'll come to you). The goal is to clear the board of pieces, which evokes an animated dragon. The game's outcome is a nicely balanced function of luck and strategy. Version 2 adds 3-D color with sound on the Mac II, but the 3-D takes a little getting used to. Another welcome new feature: The program informs you when you've run out of moves, instead of letting you flounder about. In either version, you can always get help finding a — but not necessarily the best — move. \$49.95. Activision, 3885 Bohannon Drive, Menlo Park, CA 94025; (415) 329-0800.

## 17 Tetris

Tetris is a multilevel strategy game that requires an advanced sense of spatial relationships. (If you blew the grammar-school test that asks you to duplicate printed patterns with little blocks, try another game listed here.) In this game, you're not so much concerned with clearing the screens as with making sure they don't fill up. Pieces of various shapes drop from the top of the screen and are manipulated into place from the keyboard or number pad. Your job is to keep filling out rows so they disappear; if the screen fills, the game's over. Tetris is one of the clear benefits of *glasnost*; it comes to us from

the Soviet Union via Spectrum Holobyte. \$49.95. Spectrum Holobyte, 2061 Challenger Drive, Alameda, CA 94501; (415) 522-3584.

## Simulations

### 18 Falcon

This is not one of your sedate flight simulators that lets you experience the dubious thrill of tooling around the sky in a small airplane, looking for O'Hare. *Falcon* slams you into the cockpit of an F-16 and then starts throwing MiGs and missiles at you. Think of it as getting as close as most of us ever will to being *Top Gun*. The realism of this game, from the standpoint of what you find in the cockpit and how the plane maneuvers and handles, has even been commented on in Washington, D.C. *Falcon* combines an excellent simulation with the joy of blasting bad guys out of the air. \$49.95. Spectrum Holobyte, 2061 Challenger Drive, Alameda, CA 94501; (415) 522-3584.


### 19 Life & Death

In this intriguing simulation, you become a surgeon at Toolworks General, diagnosing patients, reading charts, ordering X-rays and ultrasounds, and performing other lab work. You also get the chance to perform appendectomies and aneurysm grafts. Be prepared to make a lot of mistakes and to learn from them — the program has an excellent teaching algorithm that instructs you on the proper

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medical procedures each time you mess up. One word of caution: There's at least one mistake in the description of the surgical technique for appendectomies — sew the drawstring suture *before* you place the clamps on the appendix. (You'll know what we mean when you get there.) \$49.95. The Software Toolworks, 19808 Nordhoff Place, Chatsworth, CA 91311; (818) 885-9000.

#### Miscellaneous

**20 Balance of Power 1990** Balance of Power is a geopolitical strategy game in which you try to increase your country's prestige while keeping the Soviet Union in second place (something like the real world). Unlike the real world, however, the ultimate goal is peace and prosperity — resort to the nuclear alternative, and you lose. The latest version has been updated to include 18 more countries; a crisis advisory; a fourth, "multipolar" level; and a feature that allows you to discourage smaller countries from injudicious behavior. Pursuing international popularity, making or buying alliances,

and overthrowing the uncooperative take time; you may be wrapped up in this one for a while. Be sure to brush off those old poli-sci textbooks, and remember that

power is an addictive substance. Not MultiFinder compatible. \$49.95. Mindscape, 3444 Dundee Road, Northbrook, IL 60062; (312) 480-7667.

#### Sports

##### 21 MacGolf

MacGolf is an old-timer in the Mac-games market; we first reviewed it in the May '86 issue. It's a straightforward multiplayer golf simulation with digitized sound, excellent graphics, and a selection of courses. Those in the know (people who actually *play* golf) claim that this is just about as close to the real thing as you can get without hiring a caddy. (At least one *MacUser* staffer has upped the computer-literacy quotient of her entire family by sending a copy of MacGolf home.) \$59.95. XOR Corp., 7607 Bush Lake Road, Minneapolis, MN 55435; (612) 831-0444.

##### 22 Shufflepuck Cafe

Your goal is to get to a telephone so that you can fix your new Nash

Sombrero (which blew a capacitor on the way to close the biggest sale of your career). The only things in your way are some galactic misfits and a few "friendly" games of Shufflepuck, Broderbund's electronic version of air hockey.

You're pitted against eight different opponents, each with a unique personality and style of play. Paddle size, bounce, and power are adjustable, and you can add obstacles from the Blocker menu. A slightly battered droid acts as a trainer, and once you feel up to it, you can try the Tournament level. (If you beat all eight antagonists, you can use the phone but only if you have a credit card handy.) Requires 512K. \$39.95. Broderbund Software, 17 Paul Drive, San Rafael, CA 94903; (415) 492-3200.

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## Games

### 23 The Fool's Errand

Entering the world of The Fool's Errand drops you into a world of 80 puzzles — the mythical world of The Fool, whose errand is to overthrow the evil High Priestess' domination. The graphics are based on the traditional tarot deck, and the puzzles are varied: jigsaw puzzles, anagrams, cryptograms, mazes, and others that require a high level of manual dexterity. After you have solved all 80 puzzles, you still have to untangle the secret of The Sun's Map. You may spend many late nights on this game — but it's well worth it. Requires 512K. \$49.95. Miles Computing, 7741 Alabama Ave., Canoga Park, CA 91304; (818) 340-6300.

### NetTrek: The Real Version

NetTrek was one of the first Mac games designed to be played over a network. The game lets up to six players on a network (two per serialized copy) roam around outer space and blast each other into the void. You have a choice of three different types of spaceship — Terran, Rom, and Kling. Only the Terran lets you shoot phasers without having to lower your own shields; only Kling and Rom ships have cloaking devices. It's lonely in space, so it's nice to have your colleagues out there with you, even if they're waiting behind the next asteroid to ambush you. Requires 1-megabyte Mac Plus for black-and-white or 2-megabyte Mac II for color. \$59.95. Premier Software, 1411 209th Ave. N.E., Redmond, WA 98053; (206) 868-6360.

### 25 Where in the World Is Carmen Sandiego?

### 26 Where in Europe Is Carmen Sandiego?

These two programs are rare: "educational games" that are equally good in both respects. In both you're a detective with a series of crimes to solve that take you, in the first instance, all over the world and, in the sequel, jaunting around Europe. The crimes are a little goofy: All the chocolate in Holland has been stolen, and Hamlet's castle has been stolen by a masked man. You are given a certain number of days to solve the crime, and the program automatically deducts sleep and flight time (you spend a lot of time at airports). Broderbund provides a world almanac and a small but sufficient Rand McNally atlas of Europe to help you unravel clues.

You investigate the scene and interrogate witnesses to find clues, which

are often in the form of, "He said he was going to a country whose flag is green, black, and yellow." Or, "She said she was going to a country bordered by seven other countries."

You also get the occasional prosaic clue, such as the criminal's hair color or taste in books or movies. Put all this into your handy electronic 'tec's notebook, feed it into the crime computer, and get a warrant. \$49.95 each. Broderbund, 17 Paul Drive, San Rafael, CA 94903; (415) 492-3200.

### 27 World Builder

If you not only want to be the Master of the Universe but also want to create a universe, World Builder, an adventure-game "construction set," is definitely worth looking at. This program lets anyone with enough imagination design and program a fantasy adventure game.

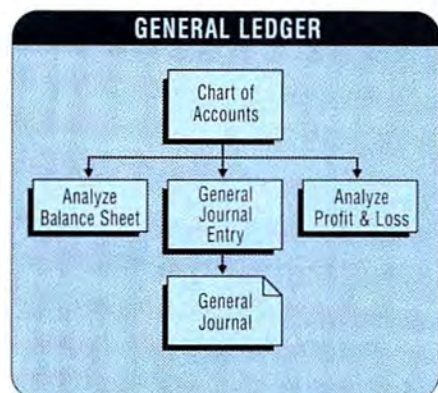
After you have produced a map of your world, designed your scenes, and populated your world with persons, monsters, and things, you write the program code that defines how the game works. Much of the code is already taken care of for you, and the rest is pretty easy to do. Sound effects can also be included in the game. Requires 512K. \$79.95. Silicon Beach Software, 9770 Carroll Center Road, Suite J, San Diego, CA 92126; (619) 695-6956.

## On the Horizon

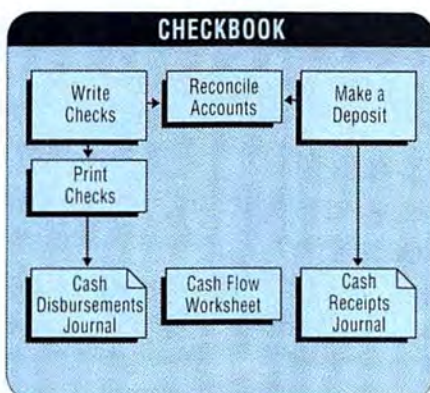
Look for Epyx's Ishido: The Way of the Stones, an oriental strategy game with an oracle thrown in for good measure. The game is played with "stones" on a board. You start with a simple layout of six stones and place your own by matching either the symbol or the background. The Ishido stones contain attractive oriental designs, but you can choose others, including Egyptian and runes. Ask the oracle a question, and if you make a four-way match, you'll get an answer. You can play solitaire, cooperative (with another human), or tournament (against the computer). Our beta tester was whopped 141 to 17 during her first (and possibly last) tournament play. The release version is to run on all Macs from the Plus up, with color on the Mac II series. Ishido is a fascinating, challenging, and intelligent program that's well worth keeping an eye out for. Epyx, 600 Galveston Drive, P.O. Box 8020, Redwood City, CA 94063; (415) 368-3200.



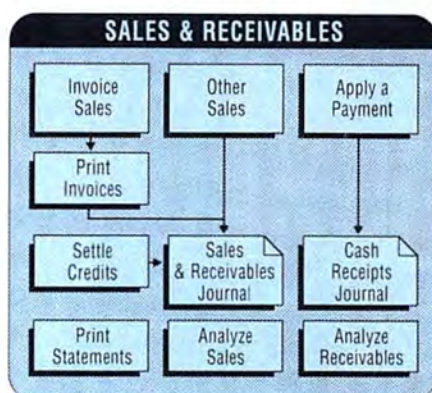
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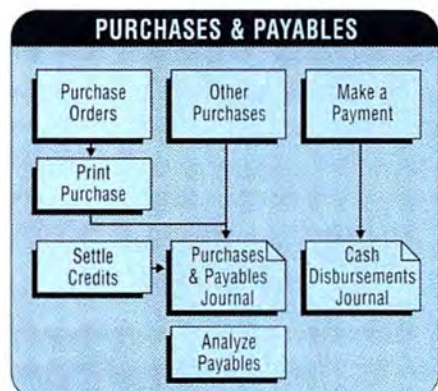
**1.** M.Y.O.B.<sup>™</sup> is the new, integrated accounting program that works the way you do. For starters, M.Y.O.B. does your general ledger, and analyzes your P&L, Balance Sheet and budgets.



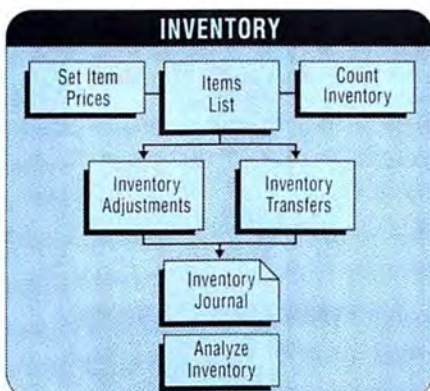
**2.** M.Y.O.B.'s checkbook alone can run many businesses. It prints checks (including recurring payments), reconciles accounts, analyzes cash flow, cash receipts and disbursements.



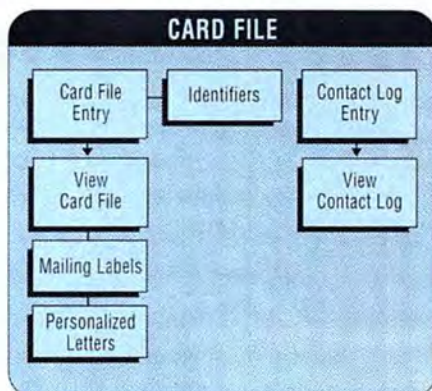
**3.** Whatever you sell, M.Y.O.B. accounts for it. With item or service invoices; automatic receivables journals; instant analysis of sales and receivables; and automatic statements.



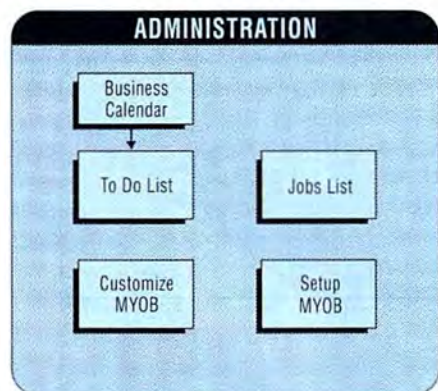
**4.** It's never been easier to track purchases and payables: M.Y.O.B. calculates taxes and discounts; settles returns and adjustments, and handles payments to open purchase orders.



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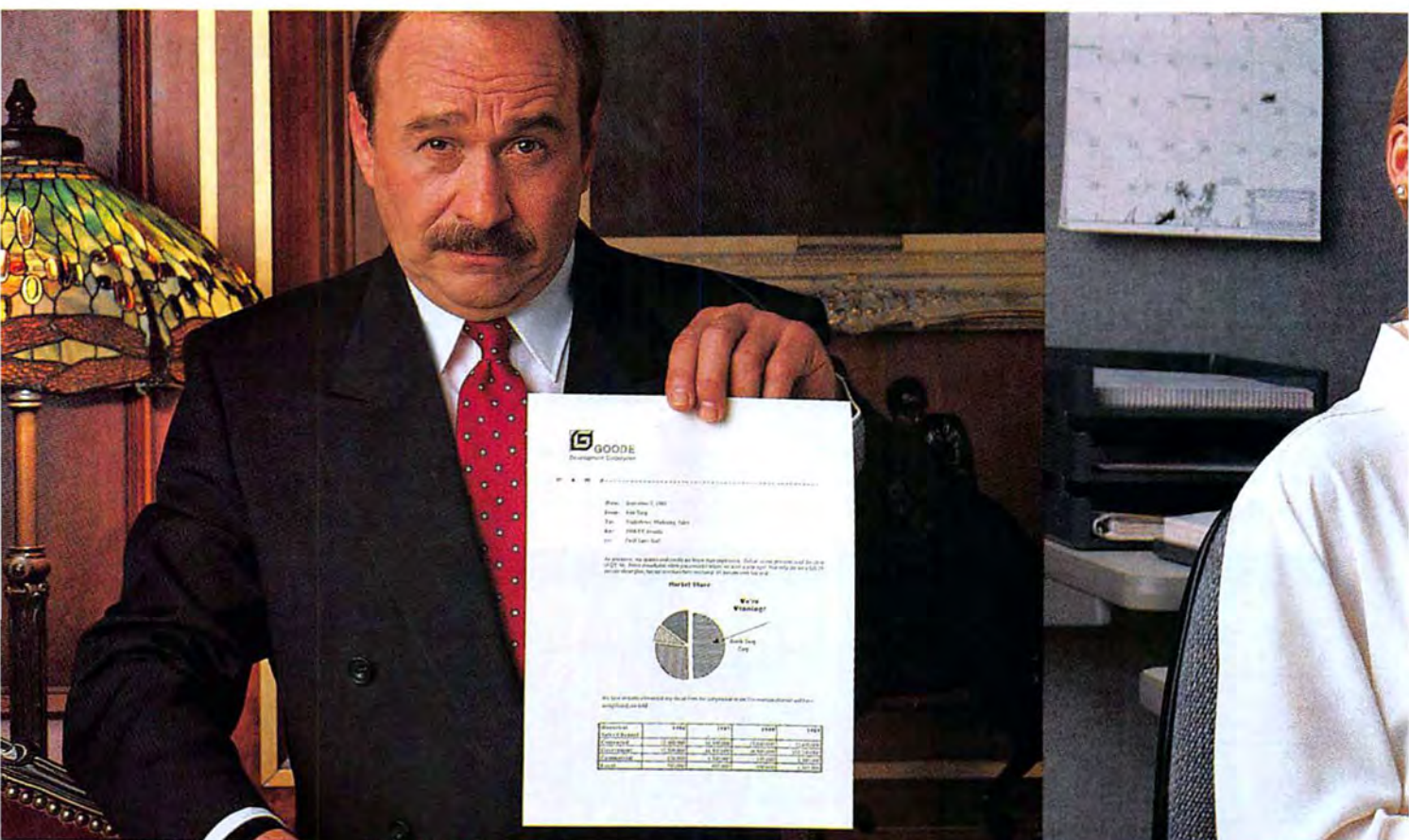
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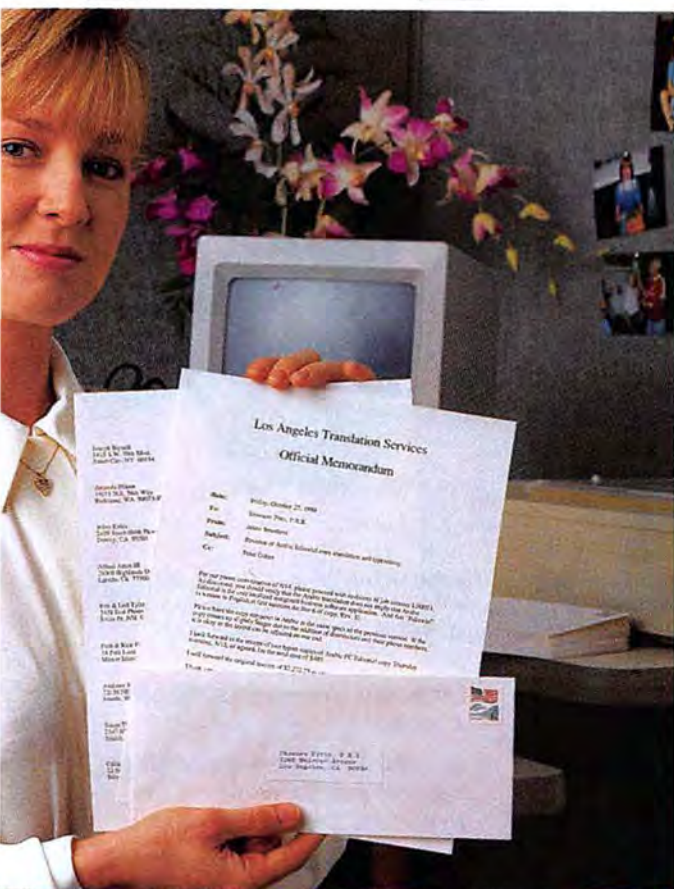
## Calculations of Celestial Bodies

The calculations of celestial bodies are a complex task, requiring a deep understanding of physics and mathematics. The following table shows the results of calculations for the positions of the planets in the solar system.

Planet	Position (X, Y, Z)	Velocity (Vx, Vy, Vz)
Mercury	(0.387, 0.000, 0.000)	(0.000, 0.000, 0.000)
Venus	(0.718, 0.000, 0.000)	(0.000, 0.000, 0.000)
Earth	(1.000, 0.000, 0.000)	(0.000, 0.000, 0.000)
Mars	(1.524, 0.000, 0.000)	(0.000, 0.000, 0.000)
Jupiter	(5.203, 0.000, 0.000)	(0.000, 0.000, 0.000)
Saturn	(9.537, 0.000, 0.000)	(0.000, 0.000, 0.000)
Uranus	(19.191, 0.000, 0.000)	(0.000, 0.000, 0.000)
Neptune	(30.069, 0.000, 0.000)	(0.000, 0.000, 0.000)
Pluto	(39.468, 0.000, 0.000)	(0.000, 0.000, 0.000)



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# Music Products

**H**ow do you top the Mac's trademark visual interface? By adding music and sound. And you don't have to be a professional musician to take advantage of the amazing instrument you already have on your desk. Here's a roundup of some unique products for everyone: pros and garage musicians, performers and listeners, and anyone wanting to add a sonic dimension to presentations, HyperCard stacks, and other applications.

## 1 Golden MIDI

What clip art does for DTP, presequenced MIDI songs can do for musical performances. Instead of struggling to figure out the parts for the latest Top 40 tunes that are sure to be requested at your next bar mitzvah gig, you can open a MIDI sequence, adjust a few parameters to tailor the sequence to your synthesizer configuration, and edit the performance as much or as little as you like — altering tempos, dynamics, and balance or tweaking individual notes and passages.

MIDI sequences can be found for sale in the classified ads in the back of many music magazines. Be careful,

though; not all the companies selling sequences have arranged for the appropriate copyright licensing, and the quality of the sequences varies widely. One of the best sources is Golden MIDI, which leans toward the sophisticated side of pop and rhythm and blues: Steely Dan, Steve Winwood, Stevie Wonder, and the like. The sequences show a great deal of attention to both musical nuances (such as pitch bend) and technical details (such as supporting a variety of sequencer formats and including documentation with each sequence). If you're new to sequencing, Golden MIDI's sequences are worth looking at, if only for what they'll teach you about the art of sequencing. Golden MIDI sequences. \$9.95 to \$29.95 per sequence. Golden MIDI Music, 330 E. 39th St., #10A, New York, NY 10016; (212) 370-0474.

## 2 Sound Clips

If all you need is a sound or two, rather than a whole song, Tactic Software's Sound Clips libraries could be just what you're looking for. Say you want to add some bells and whistles (literally) to a HyperCard stack. Many sampled sounds are available from public-domain sources, but you can give your collection a big boost with Tactic's two-volume collection. Each volume includes 10 disks (more than 115 22-kilohertz sounds), with a broad range of special effects (including a cork popping and doors opening and closing), musical instruments, and plenty of just-for-kicks sounds ("mouse slipping on floor," "Jessica Rabbit," and the ever-popular "scream in agony"). It includes ResCopy, a HyperCard stack for playing sounds and copying them to other stacks. Volumes I and II, \$99 each. Tactic Software, 11925 S.W. 128 St., Miami, FL 33186; (305) 378-4110.

## 3 CD Audio Notes

Compact discs have changed the way we listen to music — and they're about to change it even more. New CD and



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## Music Products

### Who Ya Gonna Call?

There are many on-line bulletin-board systems (BBSs) for computerized musicians, but here's one with two appealing features: It's specifically for Mac users, and it's free. The Macintosh Users at Berklee (the Boston-based Berklee College of Music) makes MUB-MEGA-MIDI BBS yours for the price of a phone call. Once you've connected, you'll find a message service and public forum, product reviews, news, tips for beginners and advanced users, technical support, and a library of MIDI files. (A one-time \$15 fee is required for accessing some files and services.) The MUB BBS operates 24 hours a day, 7 days a week, and it can be accessed at 300, 1,200, or 2,400 bps. Free; \$15 sign-up fee for some services. Berklee College of Music, 150 Massachusetts Ave., Boston, MA 02115; (617) 739-2366 (modem line).

CD-ROM formats are blurring the distinction between passive music appreciation and interactive music participation. Warner New Media was scheduled to have released the first disc in its CD Audio Notes series by the time you read this. These discs include standard audio tracks that can be played on any CD player and HyperCard stacks about the music that can be read by CD-ROM players. (The discs also include graphics and MIDI data that can be played on special CD players, such as JVC's new CD+Graphics player.) The first title in the series is a three-disc set of Mozart's *The Magic Flute*, with HyperCard "sidebars" from Roger Englander (the writer/producer of the Leonard Bernstein Young People's Concerts) on the opera's plot, libretto (with side-by-side German-to-English translation), characters, musical motifs and terminology, and historical context. Titles in preparation span everything from the classics to jazz; some future discs will even include the option of letting you view an on-screen score of the music as it plays.

Warner is also teaming up with Passport to produce a series of pop-music CD+MIDI discs that include both audio soundtracks and complete MIDI sequences for the music. These discs can be played on any CD player with a MIDI-out capability (such as the JVC XL-G512NBK). The *Magic Flute*, \$66. Requires CD-ROM drive and HyperCard. Warner New Media, 3500 Olive Ave., Burbank, CA 91505; (818) 955-



9999. Passport, 625 Miramontes St., Half Moon Bay, CA 94019; (415) 726-0280.

#### Voyager CD AudioStack and CD Companion Series

**4** The new CD-ROM and CD+MIDI formats suffer from the chicken-and-egg syndrome: Not many titles are available because there aren't many players out there, and there aren't many players because there aren't many titles to buy. The Voyager Co. may have found a way to leapfrog the bottleneck, with two new products that let you create or enjoy interactive music environments, using any of the thousands of conventional compact discs on the market. The Voyager CD AudioStack lets you synchronize HyperCard events to specific passages on any CD played on a CD-ROM drive, to an accuracy of 1/75 second, similar to Voyager's VideoStack for controlling video-discs. The AudioStack can be used with both musical and spoken-text CDs, creating endless possibilities for music appreciation, training, and foreign-language instruction.

Voyager has used the AudioStack to create the first title in its CD Companion Series: a HyperCard-annotated version of Beethoven's *Symphony No. 9* that merges HyperCard material with a commercially available CD recording of the symphony. Beethoven's Ninth CD AudioStack and CD Companion, \$99.95 each. Requires CD-ROM player and HyperCard. The Voyager Co., 1351 Pacific Coast Highway, Santa Monica, CA 90401; (213) 451-1383.

**5 sYbil** Percussionists are finally getting a tool that lets them fully exploit the power of MIDI: sYbil, a program designed for use with drum-pad controllers (such as Roland's Octapad). Drum pads are normally connected directly to drum machines via MIDI; hit a pad, and you get a specific percussion sound. But with sYbil, the drum pads can control a variety of MIDI functions, not just note values. For example, one pad might be preprogrammed to modulate to a different key, and another pad could be set to change the synth patches. In the hands of a skilled

### Costly but Musically Sound

#### Ensemble

Unlike children, speakers are better heard than seen. The Mac's internal speaker is certainly unobtrusive, but it's somewhat lacking in audio fidelity. Cambridge SoundWorks' Ensemble speaker system offers a nice solution. It consists of two subwoofers (that can be hidden under the desktop) and two small "satellite" speakers that won't get in the way of your multimedia presentation. \$499. Cambridge SoundWorks, 154 California St., Newton, MA 02458; (800) 252-4434.

#### Roland CM-64 LA/PCM Sound Module

Synthesizers used to come in two kinds of boxes: those with keyboard controllers and keyboardless rack-mountable boxes containing just the electronics needed to generate sounds (the sounds are controlled by a separate keyboard or other MIDI controller). Now there's a third kind: desktop synths. Like rack-mountables, these don't include a keyboard controller. They come in a box designed to fit under your Mac, making them most suitable for multimedia presentations and corporate boardroom environments. If you're playing back sequenced music from your Mac, a desktop synth is all the hardware you need.

The Roland CM-64 LA/PCM Sound Module can play both synthesized and sampled sounds. It comes with 128 synthesized sounds and 64 sampled sounds that cover the orchestral spectrum, with 63 additional rhythm and special-effect sounds tossed in for good measure. It can also read special RAM cards that contain additional banks of 64 sampled sounds from the vast Roland library. It can simultaneously play a total of 63 voices split among 15 instrumental sounds. As with any synth, the sounds themselves are a mixed bag, but with so many to choose from, you're sure to find plenty to keep you happy.

If you've ever tried to decipher the cryptic front-panel controls of any other synth (controls that Mac-based musicians rarely use anyway), you'll appreciate the simplicity of the CM-64 box. The controls are simplicity itself, since all the programming is done through your Mac's software: There's a power switch, a master volume dial, a slot for RAM cards (for adding more sounds), a couple of LEDs to let you know everything's OK, and MIDI and Mac ports in the back. Even nonmusicians, familiar with the Mac but baffled by electronic-musician terminology, can master it quickly. \$1,395. Roland Corp., 7200 Dominion Circle, Los Angeles, CA 90040-3647; (213) 685-5141.

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## Music Products

### On the Horizon

Hot products to watch for include a new generation of sequencers such as Vision (reviewed in this issue), Performer 3.2, and Pro 4. Finale, Coda's versatile notation program, has a new interface and a new low-cost baby brother: Music-Prose. Digidesign's Audiomedia, a stereo, digital audio recording, editing, and playback system scheduled for release in November, will bring CD-quality sound to the Mac II. And Apple's MIDI Manager, part of System 7, will let you harmonize multiple MIDI applications under MultiFinder.

percussionist, one sYbil-ized Octapad can replace an entire rhythm section (with drum solos that can rise far above the usual pyrotechnics, incorporating harmony and even melody). Nondrummers needn't fear being upstaged; guitar- and keyboard-controlled versions of sYbil are in the works. \$299. Scorpion Systems Group, 175 Fifth Ave., Suite 2624, New York, NY 10010; (415) 864-2956.

### 6 Harmony Grid

Music theory is full of Greco-Roman terms like *pentatonic*, *aeolian*, and *mixolydian* that are enough to turn the music of the spheres into a downright cacophony. Hip Software's Harmony Grid translates the abstract constructs of music theory into an interactive audio and, most notably, a visual experience that communicates the foundations of music in an intuitive, almost Zen-like, fashion.

The program maps the notes on a linear piano keyboard into a rectangular grid; each square in the grid sounds the appropriate note when you move a mouse over it (using the Mac's internal sound or a MIDI instrument). When you specify a musical mode, chord, or scale, each note in the grid is shaded or marked to indicate how it fits into the musical scheme of things. If a note is not a "legal" note in that particular musical mode, it won't sound when you pass your mouse over it; in other words, the grid filters out mistakes. As you change modes or chords, the grid pattern instantly changes before your eyes, revealing symmetries and patterns that are hard to fathom when you're staring at a piano keyboard or musical score. Harmony Grid is also a useful production tool, providing a novel paradigm for improvisation that lets you focus on global patterns, rather than on individual notes. \$99. Hip Software Corp., 117 Harvard St. #3, Cambridge, MA 02139; (617) 661-2447.



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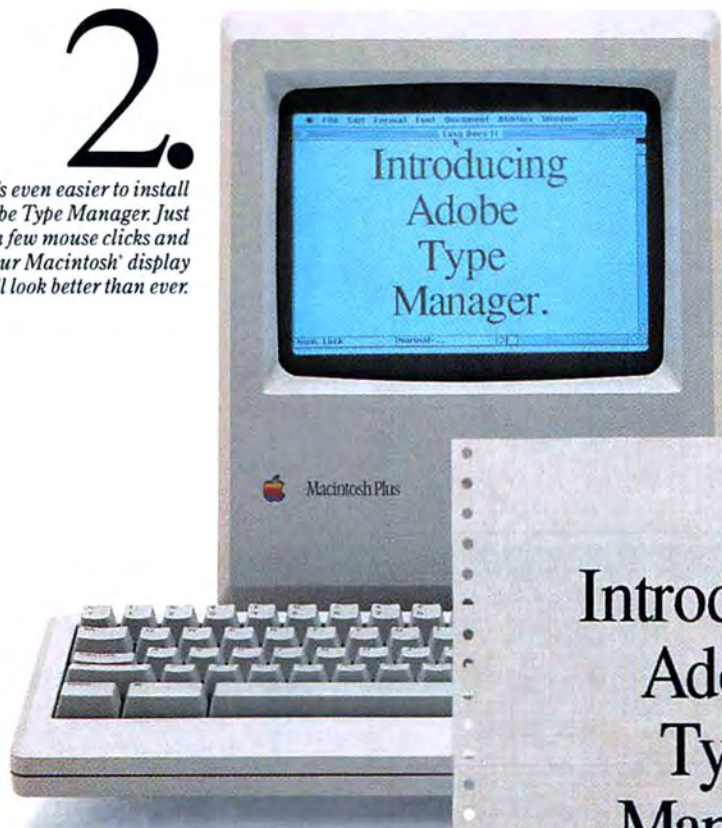
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Prior to 1984, most people thought of computers as excessively complicated, overly technical and, in most cases, far too intimidating.

But that all changed with the computer called Macintosh.

The introduction of the Macintosh was followed a year later by the arrival of the LaserWriter<sup>®</sup>, the first laser printer to rely on a completely new "page description language." The PostScript<sup>®</sup> language from Adobe Systems.

Suddenly, the desktop publishing revolution was born.

Simply stated, PostScript stores descriptions of font characters as smooth outlines comprised of mathematical formulas, rather than the more typical bitmaps. So, no matter how jagged the type might look on a Macintosh screen, it comes out crisp and clean on a PostScript-equipped laser printer.

To say this new technology changed the face of computing would be a monumental under-



*Before Adobe Type Manager, if you had a low-cost printer, you had to settle for low-quality output. But now this is just a page from the past.*

statement. Yet, the initial excitement about desktop publishing has now given way to higher expectations from Macintosh users everywhere.

Users just like you.

No longer is it simply enough to generate different type styles and sizes on your Macintosh display and printed pages.

You now want the text on

your displays to be clear, smooth and legible. You want what you see on your display to correspond as closely as possible to what the printed page will look like. And, most importantly, you want to be able to print high-quality text on your low-cost printers.

Adobe Type Manager satisfies all those demands.

When added to your system software (System 6.0 or later), it builds individual characters at any size from PostScript outline fonts—



*Adobe Type Manager puts Adobe's industry-standard PostScript language technology right on your display—where it's easy to see there really is no comparison.*



the same fonts used by PostScript printers.

Adobe Type Manager is actually based on the PostScript language's capability to create and scale fonts to different sizes. So it's very fast and very compact.

And, at just \$99, it's very affordable. In fact, at that price, Adobe Type Manager probably offers more value than any other Macintosh software.

It's also very easy to install and operate.

You see, Adobe Type Manager is completely transparent to both you and your software applications.

So all you'll see is a better image.

Once it's installed in your System Folder, Adobe Type Manager intercepts QuickDraw<sup>™</sup> font requests and generates the screen bitmaps (at the requested size) from a PostScript outline font. So, whether your text is regular, bold or italic, it looks smooth and readable from the largest point sizes to the smallest.

Then, when you print to your Apple ImageWriter or Hewlett-Packard DeskWriter, Adobe Type Manager automatically generates the requested printer font bitmap to produce beautiful, letter-quality text from any application.

That's because Adobe Type Manager is compatible with virtually all major Macintosh software—from programs for word processing and spreadsheets to page layout and presentations.

Which means it won't change the way you work.

Just the way you look.

And every Macintosh user can look better, because Adobe Type Manager requires just one megabyte of memory. That way, every Macintosh from a Plus to a IIfx can take advantage of its unique outline font technology.

Speaking of fonts, every copy of Adobe Type Manager includes high-quality outline versions of the 13 most popular fonts. They'll

enable you to produce the kind of high-quality text from your ImageWriter or DeskWriter you thought only came out of a laser printer.

If you want to add more fonts, you can pick up the ATM<sup>™</sup> Plus Pack, giving you the 22 additional outline fonts from Apple's Laser-

**Times\***

Regular, Italic, Bold & Bold Italic

**Helvetica\***

Regular, Oblique, Bold & Bold Oblique

**Courier**

Medium, Oblique, Bold & Bold Oblique

**Symbol**

ABXΔEΦΓHΘKAM NOΠΡΣΤΥΖΩΨΖ

*Adobe Type Manager includes high-quality outline versions of these 13 most popular Macintosh fonts. You can also add any PostScript outline fonts, including those from the Adobe Type Library.*

Writer II NT and II NTX laser printers. And, until December 31, 1989, ATM Plus Pack is priced at just \$198.

Adobe Type Manager also works with other Adobe PostScript language fonts, including the more than 500 typefaces from the Adobe<sup>®</sup> Type Library.

We could go on, but you probably have the picture by now. Suffice it to say, Adobe Type Manager is a lot better to look at than it is to read about.

Because, quite frankly, words don't do it justice.

So call us at 1-800-344-8335 (outside the U.S.A. and Canada, call your local distributor) for the name of your nearest Adobe Authorized Dealer.

When it comes to improving your image, it doesn't get any easier than this.



*(Far Left) Currently, the majority of personal computers, including Macintosh, store text characters as a pattern of dots (known as a bitmap). (Middle Left) But outline fonts—which were pioneered by Adobe—store the shapes of each character as easily-modified mathematical formulas.*

*(Middle Right) Scaling a bitmapped font is a less precise process, making the character less accurate and more difficult to read. (Far Right) When an outline font is used, the computer scales the outline to the precise size and shape, and fills it with dots. This results in a smoother, more accurate character.*



**ADOBE**  
Adobe Systems Incorporated



Look for this symbol on computers, printers and other products that include PostScript software from Adobe Systems. It's your guarantee of quality and compatibility.





# Clip Art

**T**he popularity of clip art continues unabated because most people don't have the time or talent to produce their own illustrations for brochures, ads, and newspapers. Dozens of companies are now marketing canned graphics, and the sheer volume of images is staggering. Most packages have a theme (business, holidays, and the like) or are divided into categories such as people, sports, food, travel, computers, animals, and dingbats. Although the market for paint-program and PICT images is strong, the hottest graphics are those in encapsulated-PostScript format (EPSF), which resize cleanly, can be edited in Illustrator '88 or FreeHand, and print at high-resolution on PostScript printers. As with everything, clip art has its winners and losers. Here are some favorites. (For a closer look at clip-art packages, see the DTP section, March '89 and August '89, and "You Gotta Have Art," August '88.)

**1 Adobe Collector's Editions**  
Collector's Editions are basic libraries of designs that you'll use repeatedly. Volume I is an excellent selection of dingbats, borders, and two editable alphabets. Volume II contains more than 400 EPSF fill patterns and textures,

including many standard designs used in graphics, architecture, mapmaking, meteorology, and geology. Collector's Edition I, \$125; Volume II, \$225. Adobe Systems, 1585 Charleston Road, Box 7900, Mountain View, CA 94039; (800) 344-8335 or (415) 961-4400.

**2 ClickArt**  
T/Maker has produced two EPSF packages of general-purpose and business images and five volumes in paint-program and HyperCard formats, including a well-executed series called Christian Images. ClickArt EPSF, \$129.95; Christian Images, \$59.95; other packages, \$49.95. T/Maker, 1390 Villa St., Mountain View, CA 94041; (415) 962-0195.

**3 Clip3D**  
This clip-art package is three-dimensional; it's in color; and it comes bundled with a program that lets you rotate, distort, zoom in, or add perspective to images. The original images are Pro3D files, but they can be exported in various formats. Eight packages—covering fonts, geography, business, and people—are currently available. \$99 each. Enabling Technologies, 600 S. Dearborn St., Suite 1304, Chicago, IL 60605; (800) 456-0234 or (312) 427-0386.

**4 Cliptures**  
This is a pair of business-oriented EPSF packages. Volume 2 is a treasure trove of high-quality clip art in a variety of graphic styles. The section on computers is outstanding. \$129.95 per volume. Dream Maker Software, 4020 Paige St., Los Angeles, CA 90031; (800) 876-5665 or (213) 221-6436.

**5 DigitArt**  
Image Club Graphics has released 15 volumes of EPSF artwork; some of it also comes in PICT format. The ArtRoom CD-ROM contains more than 2,800 of these images, plus more than 100 PostScript display fonts, 50 templates for page-layout programs, and the ArtRoom Retriever and Font Juggler DAs—and it's network-compatible. \$99 per volume; The ArtRoom CD-ROM, \$999. Image Club Graphics, 1902 Eleventh St. S.E., Calgary, Alberta T2G 3G2, Canada; (800) 661-9410 or (403) 262-8008.



**6 Images With Impact!**  
This is an impressive, imaginative EPSF clip-art collection. Both Business I and Graphics & Symbols are chock-full of sophisticated yet practical images. The numerous editable collages are especially useful. Business I, \$125.95; Graphics & Symbols, \$99.95. 3G Graphics, 11410 N.E. 124th St., Suite 6155, Kirkland, WA 98034; (800) 456-0234 or (206) 823-8198.

**7 Totem Graphics**  
The first EPSF full-color artwork is now available in a 12-volume collection from Totem Graphics (7 volumes have been released to date). The images have fine details and stunning color blends; the animals and plants are superb. They can be sent to any PostScript printer (black-and-white output retains details and shading) or converted to color separations for high-end print jobs. \$95 per volume; \$895 for all 12. Totem Graphics, 5109-A Capitol Blvd., Tumwater, WA 98501; (206) 352-1851. (For more information, see the DTP section, October '89.)

**8 WetPaint**  
This extensive collection of good-looking clip art is in bit-mapped format for users without a PostScript printer. Each of the nine WetPaint packages contains hundreds of images in various categories, plus two highly useful DAs (ArtRoundup and PatternMover). There are some nice "antique" illustrations, and a tenth package, MacTut, offers Egyptian clip art and hieroglyphic fonts. WetPaint, \$79.95 per package; MacTut, \$49.95. For \$30 more, you can get a volume in PictureBase format. Dubl-Click, 9316 Deering Ave., Chatsworth, CA 91311; (818) 700-9525.

**9 Works of Art**  
These three packages of graphics are available in paint-program and HyperCard formats, as well as in an EPSF collection called Laser Art. The Education Sampler, which covers school courses and activities, is especially good. Works of Art, \$49.95 per volume; Laser Art, \$99.95. Springboard Software, 7808 CreekrIDGE Circle, Minneapolis, MN 55435; (612) 944-3915.





"Best package for rendering, thanks to power and ease of use."

InfoWorld Oct. 2, 1989



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## Introducing STRATAVISION 3d.™

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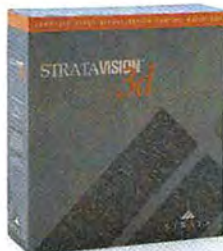
*"A visualization tool that doesn't get in the way of creativity."  
Ed Levine, Dir. of Visual Arts  
Program MIT*

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STRATAVISION 3d comes complete with tools for modeling, texturing, and detailed rendering. Tools that let you create new and exciting visual concepts, alive with possibilities.

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**"...Managing Your Money  
is the Mercedes of  
personal finance programs."**

— Macweek, 9/13/88

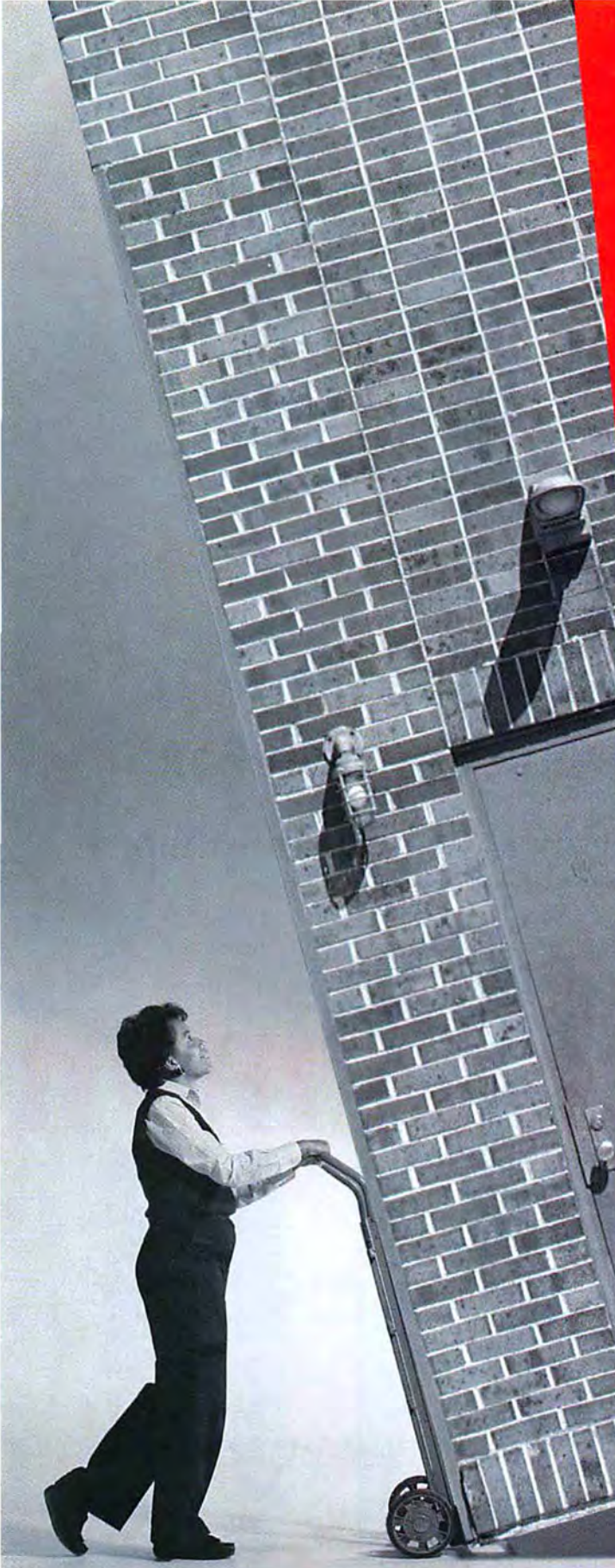
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For Macintosh Plus, SE, II, 512KE. Two disk drives (one being at least 800K).  
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A black and white photograph of a man in overalls pushing a large brick wall on a dolly. The wall is being moved across a flat surface, and the man is looking up at it with a determined expression. The background is a plain, light-colored wall.

## The software that helps Federal Express® deliver buildings overnight.

Ric Honey, a project manager of new construction for Federal Express, knows a little about deadlines.

"People say to me, 'We need this building next month.' I say, 'But that's a 1-year project.' They say, 'OK, 3 months.'"

"Managing 4 or 5 projects like that can mean a paper trail of over 600 forms at a time. All with pen and paper. I knew I had to do something."

So Ric looked into a database program for his Macintosh. "I chose Double Helix® because I didn't want to learn a programming language."

"I had a spreadsheet, and I knew it could do 'macros.' But I couldn't. If I could tell it in English what I wanted, fine. But I'm an awful typist. One finger. Try doing macros with that!"

"When they told me about Double Helix, I said 'You mean I don't have to read anything? All I do is drag around icons, pictures? This is great!'"

Only Double Helix lets you manage information your way, using simple on-screen symbols.



"Double Helix makes sure all the big expenses come up for my approval."

Now Ric and his team run the Double Helix multi-user application he created. He reports it's already cut 25% off his paperwork time.

"I just tell Double Helix what I want. And I get it."

"I wish my whole life was like that!"

For a Double Helix brochure or test flight kit, call Odesta now at 1-800-323-5423. (In IL, 312-498-5615.) Current users, ask about our special upgrade offer.

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# Double Helix.

AD01DH-120189





# Fonts

News headlines — **Helvetica Compressed** (sans serif), Adobe Systems

**I**n all cases, fonts follow function. Most people would say that fonts are a matter of personal taste, as are colors and styles of clothing, but you would not wear ski boots to the spring dance, nor should you use Zapf Chancery to compose a legal brief. The following are the fonts we rate best for performing the most-common desktop-publishing tasks.

Pull quotes/subheads — **Helvetica Black**, Adobe Systems

**T**he Quick Brown Fox verily hath jumped over that lazy, sluggardly, ne'er-do-well of the canine species, dog.

Initial capitals — **Old German** (serif), Works of Art Laser Fonts (Springboard Software)

Editorial text — **Times**, Adobe Systems

**D**erschnelle braune Fuchs ist über den faulen Hund gesprungen.

Initial capitals — **ModulaSans Bold** (sans serif), Emigre Graphics  
Utilitarian type — **Helvetica Roman 55**, Adobe Systems

To whom it may concern:

The aforementioned Quick Brown Fox has indeed jumped over the lazy dog.

Yours truly,

Memos — **Palatino**, Adobe Systems

## The Quick Brown Fox

Display type — **Avant Garde Demi** (sans serif), Adobe Systems

The Quick Brown Fox jumped

Display type — **Oxford Condensed** (serif), Works of Art Laser Fonts (Springboard Software)

# The Quick Brown

Most distinctive — **Moskva**, Art Fonts (Tactic Software)

### Directory

Adobe Systems, Inc.  
1585 Charleston Road, P. O. Box 7900  
Mountain View, CA 94039  
(415) 961-4400

Dubl-Click Software  
9316 Deering Ave.  
Chatsworth, CA 91311  
(818) 700-9525

Emigre Graphics  
48 Shattuck Square, Suite 175  
Berkeley, CA 94704  
(415) 845-9021

Springboard Software, Inc.  
7808 Creekridge Circle  
Minneapolis, MN 55435  
(612) 944-3915

Tactic Software  
11925 S.W. 123 St.  
Miami, FL 33186  
(800) 344-4818 or (305) 378-4110

The Quick Brown Fox (inset) jumped over the lazy dog.

Captions — **Helvetica Condensed**, Adobe Systems

## Fox Jumps

News headline — **Bodoni** (serif), Adobe Systems

The Quick Brown Fox is a commonly used phrase to depict a complete range of characters in a font.

Footnotes — **Univers 47**, Adobe Systems

*Master Quick Brown Fox  
invites you to attend the  
First Annual  
Lazy Dog Jump  
R.S.V.P.*

Script — **Zapf Chancery**, Adobe Systems

Decorative type — **Versailles**,  
World Class Laser Type (Dubl-Click Software)



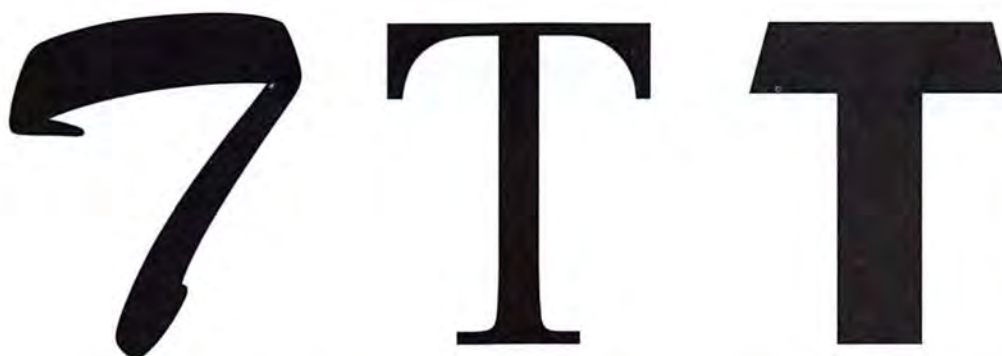
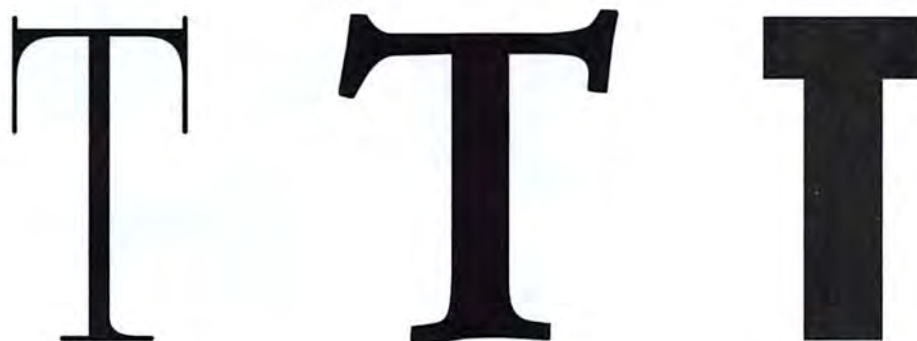
Whether you write Titles, Training materials, or Theories, your face will match your ideas.

T is for Tender and  
Tough and Tangible.  
Type will telegraph  
your concept and  
support your ideas.



T is for Tobasco,  
Teamwork and Tickle –  
Think about the  
kinds of styles a T can be.

T is for Tasty and  
Terrible and  
Terrific. Type is an  
artist's tool to drive  
a concept home.



The typefaces from  
left to right:  
Hobo, ITC Zapf  
Chancery medium italic,  
Goudy Old Style roman,  
University roman,  
Stempel Garamond  
bold, ITC Machine  
medium, Brush Script,  
Linotype Centennial 45  
light and Revue.

PostScript people can breathe a sigh of relief. Now there's a typeface for every A, B, or Z you use. Linotype offers you over 130 PostScript font packages with over 550 typefaces for Macintosh and IBM PCs. And the number grows constantly. For your free reference to PostScript fonts available from Linotype, or to place a typeface order, call toll-free:  
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**S**ome software is so open-ended that you may not know where to begin, and frequently you don't have time to learn all the program's intricacies. It's similar to being given the tools to repair a car without having any knowledge of mechanics. That's why templates are useful. Templates take complex spreadsheet and database engines and turn them into smoothly running machines that any business user can take for a spin. Various templates are available, and you can be sure that as software becomes more diverse, there will be many more.

#### Excel Templates

##### Small Business Accounting System

**1** This Excel template and set of macros from Heizer Software help you run a small cash-based business. The journal charts your transactions, while an Excel macro posts checking deposits to the proper account. The balance sheet and income statements are always current. This package is good for small outfits that don't have a lot of money to spend on a stand-alone accounting system. \$79. Heizer Software, 1941 Oak Park Blvd., Suite 40, Pleasant Hill, CA 94523; (415) 943-7667.

##### Tim Berry's Business Plan Toolkit

**2** This compilation of Excel spreadsheets, a HyperCard stack, and sample Microsoft Word files is for people who think they want to go into business for themselves. The examples include the charts and proposals needed to attract venture capital. Templates are included for market forecasts, break-even charts, income bars, and personnel plans. \$99.95.

# Templates



Palo Alto Software, 260 Sheridan Ave., Suite 219, Palo Alto, CA 94306; (415) 325-3190.

#### FileMaker II Templates

##### Small Business Retailer

**3** Small Business Retailer, from Packer Software, lets proprietors track employee information, inventory, and customer lists. There are no payroll or general-ledger features, however. Small Business Retailer helps you coordinate sales and schedule jobs that have several stages. It's a good analysis tool that shows where you need to beef up operations and where to cut back. According to Doug MacKay of Packer, "It's not for a McDonald's, but it's perfect for an art gallery." Support is available through the Connect on-line service. \$295. Packer Software, Inc., 12 Roosevelt Ave., Mystic, CT 06355; (203) 572-8955.

#### PageMaker Templates

##### FlexForm Business Templates, Volumes I, II, and III

**4** These 65 commonly used business forms drop into PageMaker 3.01 for customizing. They can be used either as is or as a starting point for more-complex forms. Most of them have room to add

your company's logo, name, and address. The templates are available in three volumes. Volume I, Human Resources, contains employment applications, warning notices, expense reports, and other personnel forms that a small business might need. Volume II, the Inventory/Stock-Keeping Edition, has purchase orders, shipping logs, packing lists, and other sales tools. Volume III, the Operations/Administration Edition, is composed of accounts-payable ledger cards, sales receipts, past-due notices, and other miscellaneous forms. \$49.95 per volume. Antic Software, 544 Second St., San Francisco, CA 94107; (415) 957-0886.

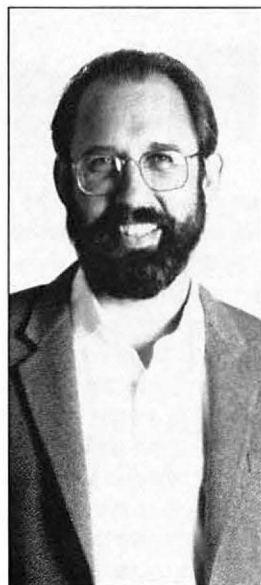
#### Word Templates

##### ResumExpert

**5** ResumExpert gives you 40 ways to display your job talents. It is especially good at showing you how to hide your weaknesses — such as little education or long periods between jobs — and emphasize your strengths. ResumExpert suggests different styles for different objectives. The sample résumés and formats have been used successfully. This collection will lend sparkle to anyone's job history. \$75. A Lasting Impression, 49 Thornberry Road, Winchester, MA 01890; (617) 721-2037.



# IT TAKES A CERTAIN TYPE TO MAKE A STATEMENT THIS BOLD.



*Sumner Stone, Adobe's Director of Typography is a pioneer in the world of electronic type. He's the mastermind behind Adobe Originals, our distinctive new designs and typeface revivals that combine the traditions of great typography with the requirements of modern communication.*

And Adobe is just the type to do it. As the undisputed leader of the electronic publishing industry, Adobe has the perfect typeface for every communication style—more than 500 downloadable fonts in all.

But there's more to our Adobe® Type Library than just variety. Because we license original typeface designs and painstakingly create them in PostScript® format, the quality simply can't be matched. And our technology assures that every font prints perfectly, regardless of point size or resolution of your PostScript printer.

You'll find that same level of quality in our screen fonts, too. In fact, the new Adobe Type Manager™ allows you to scale Adobe typefaces precisely to any size right on your Macintosh® display.

We've also added the Adobe Originals™, our unique collection of classic and original typefaces specifically designed and produced for today's electronic publishers. They're complemented by extended character sets—available separately—which may include small capitals, oldstyle figures, fractions, ornaments and titling capitals.

For more information about the Adobe Originals and the rest of the Adobe Type Library, send for our **free Font & Function™** catalog. It's full of tips and techniques by type experts from around the world. With a little help from our catalog, your PostScript printer and your Macintosh or IBM® PC computer, you'll be all set to publish like a pro.

Just mail this coupon for your **free copy of Font & Function.** Or, if you're the type who can't wait, call us at 800-83-FONTS.

To receive your free *Font & Function* Adobe Type Catalog, mail to: Font & Function, P.O. Box 7900, Mountain View, CA 94039-7900.

Check appropriate box(es):

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**The first PostScript® compatible printer for the Mac to break the \$3000 price barrier!**

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**"\$1500 less, and they didn't try to sell me a bunch of extra fonts I'll never use!"**

—Doug Clapp, Author



**40MB drive—  
42MB removable**

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Our new "C" series drives are a mass storage and backup/archiving solution in a single cabinet. Industry leading Quantum and Imprimis drive mechanisms are the heart of these systems that race along at speeds to 16ms!

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tape backup**

**\$1097**

The DC600 technology used in our new T150 tape drive can perform backups at 3 times the speed and with 3-1/2 times the capacity of the Apple tape solution—all at a lower price! Our custom backup software allows for automated (unattended) backups, mirror image, file-by-file, incremental or custom backups.

# The Right Products

Since 1985 our mission has been to deliver high performance solutions at the very best prices. It all began with the ancestor of this little workhorse, the RM.8, an 800k floppy that reviewers have loved for years. We've continued to improve it and have dropped the price to \$147! From that beginning, we've grown to offer four removable technologies, making us the only company that can objectively recommend the right removable for your needs.



There's no excuse for leaving your valuable data unprotected. Our new T150 tape backup combines proven DC600 technology, our easy-to-use software, and an "excuse shattering" low price.

We've joined forces with our Minneapolis neighbor, Imprimis, to introduce three new drives with capacities to 580MB. We chose Imprimis drives for rock solid performance and blistering speeds to 16ms.

We were first to introduce a combination storage/backup solution in 1986. Our new generation "C" series is comprised of seven solutions based around Quantum and Imprimis drives (the slowest being 19ms!) with a choice of 42MB removable or 150MB tape for reliable backup and archiving.

Our new MirrorImage printer breaks the \$3000 price barrier for PostScript® compatible Macintosh printers!

# The Right Prices

**"Mirror Technologies has proven again that high performance doesn't have to be priced higher than a kite... Factory direct sales keep the price low."**

—MacGuide

Thank you MacGuide! We couldn't have said it better ourselves. We've shown thousands of Macintosh users a better way to buy computer products. When you buy direct from Mirror Technologies, you get Factory Direct pricing, our 30 day **Love-It-or-Return-It** guarantee, solid warranties and answers direct from the source. (After all, for product

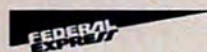
information, who better to ask than its maker?)

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All prices/specifications subject to change without notice. Call for current pricing, warranty, and promotional details. Mirror and MirrorImage





**20 - 580MB  
Externals** from **\$447**



**20 - 100MB  
Internals** from **\$377**



**Flatbed Scanner** **\$597**

"The cream of the crop...and are also among the least expensive."—*MacWorld*  
Sleek, fast, quiet. Our M series hard drives feature an international power supply, external SCSI switching, cables, and whisper quiet fan. Drives ship formatted, tested and loaded with 10MB of utilities and shareware, and are backed with our 2 year limited warranty. Our three newest drives feature high capacities (170,290, 580MB) and speeds to 16ms! M20: \$447. M30: \$497. MP40: \$647. M45: \$597. M60: \$667. M80: \$727. MP80: \$997. M100: \$997. MP100: \$1097. M170: \$1897. M290: \$2497. M580: \$3297. (MP designates premium 19ms Quantum drives.)

Our internal drives save you space and money. We've got internal solutions for the Mac SE, SE30, II, and IIfx. SE owners- keep both floppy drives (or one floppy and one hard drive) with our unique mounting system. Drives ship formatted, tested and loaded with 10MB of utilities and shareware, and are backed with our 2 year limited warranty. M20i: \$377. M30i: \$427. M40: \$527. MP40i: \$557. M45i: \$527. MP80i: \$927. M100i: \$927. MP100i: \$1027. (MP designates premium 19ms Quantum drives.)

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"If it were my money, I'd buy the Mirror...its price/performance ratio is unequalled"—*Byte*  
AND, for a limited time, we'll also include FREE Optical Character Recognition (OCR) software from Olduvai (\$495 Value). VS200 (200dpi): \$597. VS300 (300dpi): \$797.



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removable** **\$877**



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**30 - 100MB  
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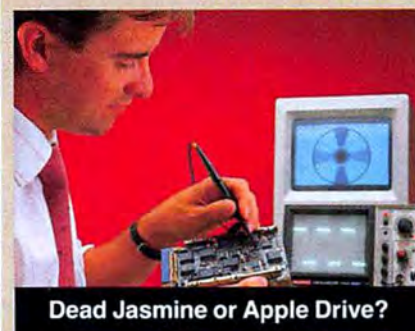
The RM20 operates as fast as many hard drives but with the integrity of a floppy. Utilizing disks and technology from Kodak, the shock resistant media is guaranteed for life, making it perfect for archiving and backups.  
"...faster [and \$100 less] than the Jasmine drive"—*MacUser*.

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# Accessories

**A** desk with a Mac on it looks like any other desk with a Mac on it until you start adding accessories — things such as lights, scenic mouse pads, attachments for holding things, and other attachments for withholding things. And then there are Mac adaptables or adoptables, such as dustcovers, carrying cases, T-shirts, and “portovers” from the DOS world (such as The Original Chocolate MacByte). Some we chose because they seemed useful, and others were one of a kind or tickled someone’s fancy. You’ll find that some of these items can make life with your Mac easier and more comfortable; others just make it more interesting.

## Maccessories Anti-Glare Filter

**1** Solve glaring problems inexpensively with a Maccessories Anti-Glare Filter from Kensington Microware. Made of optical-grade beige or platinum acrylic, it screens out glare while improving contrast and clarity. It has a scratch-resistant coating and is easy to install on a Plus or SE. Large-screen filters are available for regular and color monitors from Apple, Sigma, and Radius. The Mac II version seems pricey and doesn’t make the grade for best-rated product. \$49.95 (for SE) to \$199.95 (for color and full-page monitors). Kensington Microware Ltd., 251 Park Ave. S., New York, NY 10010; (800) 535-4242 or (212) 475-5200.

## Hoodman

**2** The Hoodman security hood promises to keep the sensitive information on your screen free from prying eyes and at the same time cut glare from office lights. The Hoodman is essentially an open-ended box that attaches to your monitor with Velcro tabs. Only the person directly in front of the apparatus can view the screen. One of our editors has used it for months for glare reduction. \$39.95 plus shipping. Hoodman Corp., P.O. Box 816, Hermosa Beach, CA 90254; (213) 379-6391.

## E-Z View

The E-Z View monitor hood from Royo is an appliance consisting of a hood and mirrors that changes the way you look at your Mac. The hood screens out glare, while the attached mirror reflects the screen image to an adjustable mirror located just above the keyboard, letting you look down to work. Royo contends that looking forward causes the eyes to adjust for distance viewing, resulting in eyestrain, and that looking down causes less strain. The system has other benefits too — it’s better for bifocal wearers, it screens out monitor radiation, and it causes less strain on the neck and back. Designed by an ophthalmologist, this system takes a little getting used to, and the image, although sharper, appears darker. The E-Z View fits a Mac Plus, Mac SE, or monitors up to 15 inches. You will probably also need a spacer base to raise your machine to the desired height (or you might try a telephone book). E-Z View, \$99.50; spacer base, \$29.95. Designs by Royo, 320 H St., Marysville, CA 95901; (916) 741-3937.

## Optimac

**4** Light up your SE or Plus with Optimac from Space Lighting. Optimac puts the light where it belongs — on your work area. There’s light on the left and right of your Mac, where you need light most when you’re entering information from paper. There’s no glare, no reflection on the screen, and no light in your eyes. Optimac, constructed of black anodized aluminum, has long-lasting tungsten-halogen microbulbs covered by a diffusing lens. It slips quickly onto the carrying



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## Accessories

handle, and there's no heat transfer to the computer. It has its own low-voltage transformer. We had the feeling that things were going to fall off when we were moving or installing it, but nothing did. \$155. Space Lighting, Inc., 37 Commercial Blvd., Novato, CA 94949; (415) 382-7816.

### 5&6 **FastRack and Thingi II**

FastRack and Thingi II, from Advanced Gravis, are little attachments that can mean big convenience if you do a lot of disk swapping or entering information from copy. FastRack attaches to the side of your computer to keep the disks of the moment separate and ready to switch. It has slots for four 3.5-inch or 5.25-inch disks; you can double the capacity by attaching a second FastRack to the first.

Thingi II mounts on either side of your monitor (or any hard, flat surface) to keep copy, recipes, and the like at eye level. You can rotate the arm to the desired angle or fit it against the computer when it's not in use. FastRack, \$3.95; Thingi II, \$7.95. Advanced Gravis Computer Technology Ltd., 1602 Carolina St., #D12, Bellingham, WA 98226; (800) 937-0062.

### 7 **MacSac**

Go Mac packing with the MacSac Backpack from ComputerAid. Designed

## The Original Chocolate MacByte

### 8

Do your favorite Mac hackers hunger for new software? Do bits of chocolate turn them on? Make the connection with The Original Chocolate MacByte, two 3.5-inch, 3.5-ounce chocolate floppy disks packed in a reusable software carrying case. And for connectivity, there's the 5.25-inch DOS floppy. If you're really networking, there's The Original Chocolate Love Byte. Or you can tickle the taste buds with a chocolate keyboard or give terminal lovers their very own. The Original Chocolate MacByte, \$14.95; Chocolate Byte and Love Byte, \$12.95 each; keyboard \$11.95; computer, \$10.95. The Chocolate Software Co., Inc., P.O. Box 481290, Los Angeles, CA 90048; (800) 332-2983 or (213) 0931-1527.



for the SE and Plus, the Backpack is made of dark-gray, durable fabric and is lined with high-density, closed-cell foam padding to protect your computer from shock. It has interior pockets for the keyboard, hard-disk drive, and other peripherals, and its well-padded backpack straps don't hurt your shoulders. Other MacSac models include a Backpack without the backpack straps, one for an SE with extended keyboard, and printer and Mac II cases. Cases can be custom-made in other colors or with your company logo, but you must make a minimum order. MacSac Backpack, \$104. ComputerAid, 235 Promenade St., Suite 219, Providence, RI 02908; (401) 274-0595.

#### **Traveller Disk Wallet and Disk•Book**

**9&10** Whether you carry two disks or a dozen, MicroStore has a safe, convenient case that fills the bill. The Traveller Disk Wallet comes in models to hold four, eight, or twelve 3.5-inch disks. Disk•Book large-capacity organizers hold 10 to 32 disks, are freestanding when open or closed, and are easy to move from bookshelf to briefcase. In addition, they have a top seal that keeps disks in and dust out. The Disk•Book Plus has pockets for pads, pens, and so on. Traveller Disk Wallet, \$8.95 to \$16.95; Disk•Book, \$16.95 to \$34.95. MicroStore, P.O. Box 33, Le Sueur, MN 56058; (800) 962-8885 or (612) 665-3284.

#### **11 Persona Ball**

Gaze into your crystal trackball. Replace the ball in your trackball device with a Persona Ball, a clear ball that displays your choice of name, logo, graphic, or message. You supply a black-and-white reproduction of artwork or copy, and Group III Micro Products embeds it in your crystal ball. It fits any device that uses a 2.25-inch ball (TurboMouse and Propoint, for example) and can be ordered singly, though you get a discount on volume orders. This would make a nice gift. \$19.95; shipping, \$3. Group III Micro Products Co., P.O. Box 583, Arlington, TX 76010; (817) 277-1986.

#### **12 Custom Trackballs**

Kensington Microware, maker of the TurboMouse, has just released trackball replacements called Custom Trackballs, which come in red and blue pearlescent, green and white speckle, and 8-ball versions. The company will soon offer more colors and a fluorescent model. Pearlescent and speckle balls, \$12.95 plus shipping; 8-ball, \$17.95 plus shipping.

#### **13 The DISCalculator**

Solar power, not your Mac, drives this 3.5-inch floppy. Slide the metal shutter down, and you'll find a fully functional solar-powered calculator. The disk label is the permanently imprinted, smooth-surface number keypad (no more buttons). When you're at your wit's end, you may want one for that hacker who has everything. (Custom imprinting is available.) \$19.95. The Computer Giftware Co., 521 State St., Glendale, CA 91203; (818) 500-7857.

Kensington Microware Ltd., 251 Park Ave. S., New York, NY 10010; (800) 535-4242 or (212) 475-5996.

#### **Smack-a-Mac! and Happy Mac Covers**

**14&15** Smack-a-Mac!, a cuddly stuffed Mac SE, is wearing its happy face on a new line of products. Cover your Mac (Plus or SE) and keyboard (standard or extended) with a Happy Mac Cover. There are also T-shirts in several designs, including a traveling Smack-a-Mac! captioned "Don't leave home without me!" and a full-color poster featuring Smack-a-Mac! challenging IBM and company to a showdown in the Hard Drive Saloon. Smack-a-Mac!, \$9.95; Happy Mac Cover, \$19.95; T-shirt, \$14.95; poster, \$9.95. Smack-a-Mac!, 1706 Linbrook Drive, San Diego, CA 92111; (619) 279-1919.

#### **16 WristMac**

Made by Seiko, the WristMac can upload and download alarms, schedules, phone numbers, and text — 80 entries total: each entry can consist of two 12-character lines. It's accessed by a HyperCard stack with an on-screen simulation of the watch. Data can be imported from many HyperCard stacks such as Focal Point and Apple's address stack, text files, and some other products such as 4th Dimension. The WristMac comes with Mac software, an owners' manual, and a cable and clip to connect it to the Mac. Owners we've talked to don't leave home without it. \$225. Microseeds Publishing, 7030-B W. Hillsborough Ave., Tampa, FL 33634; (813) 882-8635.

#### **17 Precision Line Pads**

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### Mac SE/30 HD40 System

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### New! Macintosh IICI System

Now stocking the new Mac IICI featuring a built-in video interface and a super-fast 25MHz clock speed. System includes a 40 meg hard disk, 2 megs of RAM, an Apple RGB color monitor, an extended keyboard and all of the listed items\*.

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Finally—the Mac Portable has arrived! It includes an Active Matrix LCD display, a 16MHz 68000 processor, 1 meg of memory, the FDHD 1.4 meg Superdrive, an internal 40 meg hard disk, 4 expansion slots, 9 external ports, a rechargeable battery (lasts 6-8 hrs), a power adapter/charger, a built-in keyboard and track ball, ADB Mouse, & carrying case.

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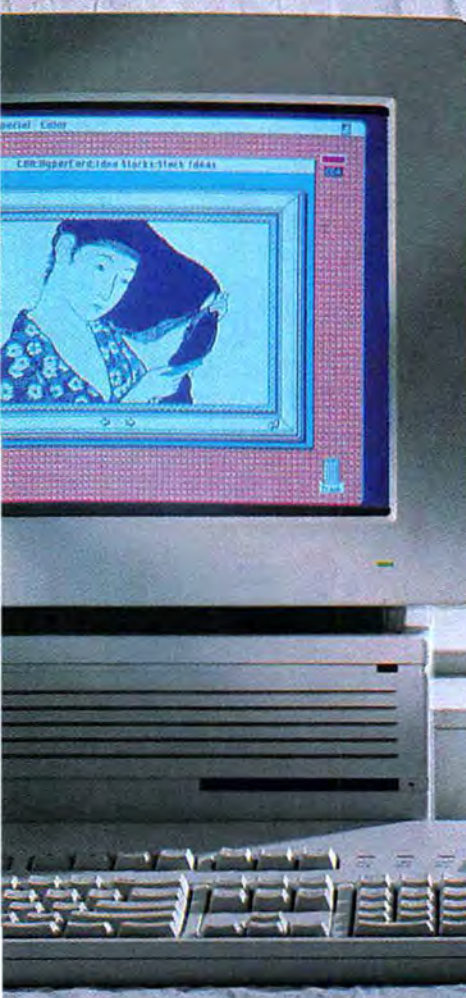
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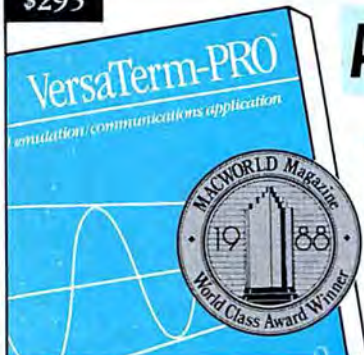


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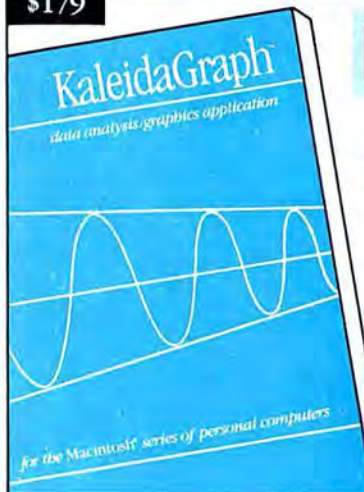
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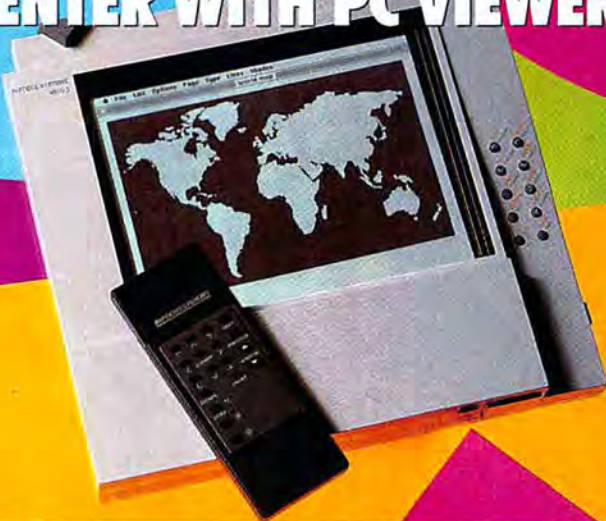


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## Accessories

brighten up your space at the same time. Precision Line offers sedate granite pads or pads with a selection of landscapes and playful prints. \$17.95. Precision Line, 14100 23rd Ave. N., Minneapolis, MN 55447; (800) 328-0077.

### 18 ExecutivePads

Computer Giftware's ExecutivePads in granite, marble, or hardwood designs provide a classic touch and a better buy. On the other end of the spectrum are BachelorPAD and BachelorettePAD, which display bodies in the "buff." ExecutivePad, \$14.95; BachelorPAD and BachelorettePAD, \$17.95 each. The Computer Giftware Co., 521 State St., Glendale, CA 91203; (800) 543-7326.

### 19 Mac Muzzle

Maybe you can keep your Mac from being stolen by using a lock and chains, but that still doesn't protect sensitive information you may have stored in it. The Mac SE Muzzle from Ergotron is a collar that slips over your SE and secures it in several ways. You can disable your Mac totally by cutting off access to the power, or you can block access to either or both drives. The Muzzle comes with different parts for different locking systems. You can also purchase one for the Mac II. Mac SE Muzzle only, \$59.95; Mac SE Muzzle with power plate and drive covers, \$79.95; Mac II Muzzle, \$89.95. Ergotron, Inc., 3450 Yankee Drive, #100, Eagan, MN 55121; (800) 888-8458 or (612) 452-8135.

### 20 LabelOnce

If you're tired of peeling labels from disks or scratching through obsolete file names and writing over them, take a look at LabelOnce erasable labels from Multicomp. These microthin plastic labels are designed for floppy disks, data cartridges, tape reels, and VHS videotapes. Plain white themselves, they come with colored dots for color-coding and organizing. You write on the labels with permanent markers and erase writing with a vinyl ink eraser or by cleaning the entire surface with alcohol. The labels come in several packages, ranging from a complete kit with 50 to 200 labels, color-coding sheet, labeling pen, eraser, cleaning fluid, and wipes to refill packages. We thought these were a great idea! Kit, \$18.75 to \$39.95; bags with labels, color-coding sheet, pen, and eraser, \$9.95 (25 labels), \$13.95 (50 labels); labels, \$4.50 (for 25), \$8.95 (for 50), \$15.50 (for 100). Multicomp, Inc., 1730 N. First St., P.O. Box 2761, Abilene, TX 79604; (915) 676-0844.



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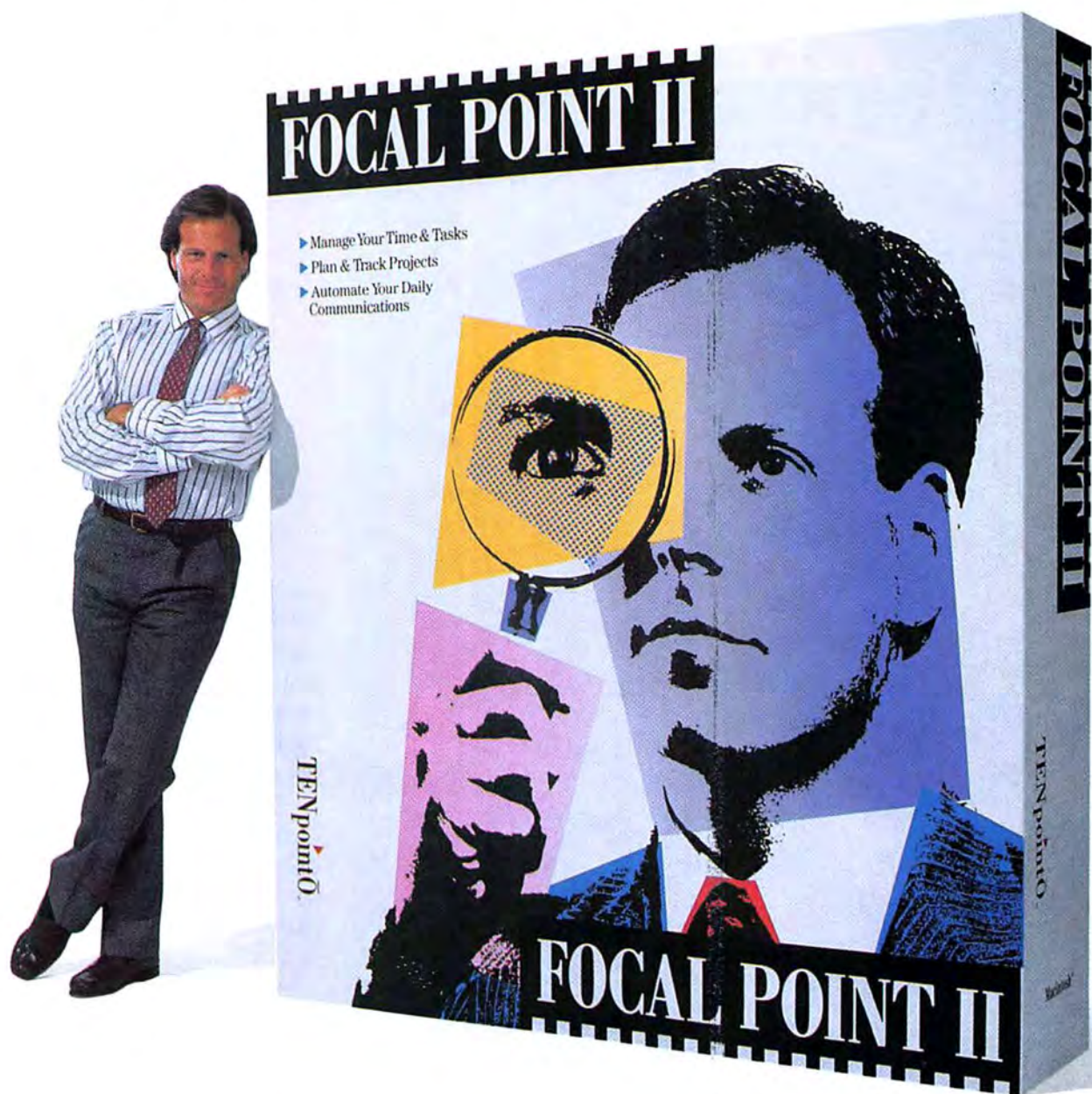
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**A**ll experienced Mac users have a warm place in their heart for shareware and freeware and have several pieces of it on their hard disk. Especially at this time of year, good shareware can bring relief to the strained pocketbook and, more often than not, can get the job done well. But where do you get it? And what's the good stuff? Here's a list of our favorite 50, culled with the help of the Berkeley Macintosh Users Group (BMUG) from its *Disk Catalog* (\$10). (For more information on BMUG, contact BMUG, Inc., 1442A Walnut St., #62, Berkeley, CA 94709-1496; [415] 549-2684.)

All the shareware mentioned here is available via modem from BMUG's bulletin board. If you don't have a modem and your local user group doesn't have these programs in its library, you can write to BMUG and send \$4 for each disk. We have included the name and number of each BMUG disk at the end of the program descriptions. For \$100 you can also get essentially the whole library on BMUG's PD-ROM, a CD-ROM disk with more than 350 megabytes of publicly distributable software.

In the near future, *MacUser* also plans to cull the top shareware from this list and provide it and numerous *MacUser*-commissioned utilities on its exciting new bulletin board, called MacUserLink (downloads are \$12.50/hour, at 1,200 or 2,400 bps). Additionally, we hope to offer a joint *MacUser*/BMUG disk as a premium for subscriptions and renewals to *MacUser*.

As for requirements to use these shareware and freeware products, most of the DAs listed here are so small that you



# Shareware

can run them on any Mac. The HyperCard stacks generally need a minimum of 2 megabytes of memory. And one final requirement: As always, *MacUser* encourages users to fulfill their part of the shareware bargain — send your checks to the long-suffering programmer after you've tried the program and decided that you like it. Twinkies are not enough to sustain even the most ascetic of hackers, especially during the holidays.

## DAs

- 1 Artisto+ 2.01**  
Artisto, a "paint cutter" type DA, includes tools for copying parts of a graphic to the Clipboard so they can be pasted into other files. The program can open both paint and PICT files. Requires 13.5K. \$5 (shareware). BMUG disk: DAs 1. Tom Taylor.
- 2 Easy Envelopes 1.2c**  
Easy Envelopes provides you with a great way to print envelopes. It stores up to 32,000 addresses and has a search feature as well. Envelope sizes are adjustable,

all Mac fonts and styles can be used, and all Mac printers are supported. The return address can even include a logo. An elegant manual accompanies the DA. Requires 25K. \$15 (shareware). BMUG disk: DAs 2. Andrew Welch.

- 3 McSink 6.2**  
With its multiple windows, advanced controls, and color, McSink is more like a DA word processor than a text editor. The program can be upgraded to Vantage, a commercial version of the product that includes a manual, a spelling checker, and macros. Requires 67.5K. \$30 (shareware). BMUG disk: DAs 2. David McWherter.

- 4 MiniWriter 1.42**  
A useful text editor that never seems to fail, MiniWriter is one of the most popular pieces of Mac shareware. It includes features like smart quotes and Find and Find Next functions. A high-quality font is included for draft printing, and all Mac printers are supported. Documentation is included. Requires 28.5K. \$12 (shareware). BMUG disk: DAs 2. David Dunham.



# COPY II<sup>®</sup> for Apple Macintosh

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Copy II for the Macintosh is a collection of three utility programs and a new desk accessory, Locate. Copy II combines powerful utilities which enable you to: maintain and repair your floppy and hard disks, create archival backups and allow you to install applications directly onto your hard disk.

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Macworld 5/89

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Jake Paden  
MacUser 3/89



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Locate is a fast information finder in a desk accessory. You can search for full or partial file names, up to three key words, or both. Once found, Locate displays the information and under Multifinder will launch the application.

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## Shareware

### Education

#### 5 First Fleet 2.0/U.S.

First Fleet, a series of three HyperCard stacks and related sounds, was created to celebrate the Australian bicentennial. The program recounts the voyage of the first fleet of European settlers to Australia. It is nicely done, with only a few minor flaws, and is appropriate for classroom use. Requires 1,959K. \$15 (shareware). BMUG disk: Education 29. Peter Lyndon.

#### 6 If Monks Had Macs . . .

If Monks Had Macs, a collection of six stacks, is one of the most beautiful and elaborate works in HyperCard. The stacks range from a medieval religious work to strings on a contemporary bulletin board on the meaning of life. While some people might see this as religious, Christian, or even Catholic, others will see it as a powerful and positive example of "The Medium Is the Message." Requires 2,121K. Freeware. BMUG disk: Education 47h. Philip A. Mohr, Jr.

#### 7 MacRoots 5.3

You fill in the ancestors and indicate the links (marriage or parent) with this genealogy database, and MacRoots prints out a variety of pedigrees and trees. Data can also be exported as text. The program can handle 30 generations and up to 999 individuals. Requires 287K. \$35 (shareware). BMUG disk: Education 14. Bruce Muckala.

### Games

#### 8 Billiards 85.12.08

This nicely implemented pool game gives you seven games to choose from. Billiards 85 includes many special effects, such as English on shots, sound, and zoom. Requires 102.5K. Freeware. BMUG disk: Games 1. R. Crandall, S. Gillespie, and S. Lew.

#### 9 Brand Othello 1.0

This is the same as the board game Othello, except that in Brand Othello you play against the computer. It plays a strong game and lets you adjust its strength. You get documentation too. Requires 60K. \$10 (shareware). BMUG disk: Games 15. Anders and Valerie Kierulf.

#### 10 Bricks 7.0

You've seen it in the arcade; you've seen it on TV — now you can have Bricks on your Mac. There are several shareware versions from which to choose, but this is perhaps the best one. Requires 23K. \$5 (shareware). BMUG disk: Games 1. Ken Winograd.



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## Fonts

### 11 **Abernathy**

Abernathy, a beautiful sans serif ImageWriter font, is a sister package to Palencia (see later). \$12 (shareware). BMUG disk: Fonts 12. Andrew Welch.

### 12 **Bill's Dingbats**

Many of the symbols in this useful collection of LaserWriter symbols are not available elsewhere. Some people prefer Bill's Dingbats to Zapf Dingbats. The screen version is available only in 30-point size. \$8 (shareware). BMUG disk: Fonts 14.

### 13 **Clairvaux**

Clairvaux, an ImageWriter "superfont," is available in sizes from 9 to 72 points. The extra-large sizes make the font ideal for use with the ImageWriter LQ. This is the best font for giving a published look to your ImageWriter output. \$10 (shareware). BMUG disk: Fonts 15. J. W. Leedom.

### 14 **FontDisplay 5.4**

Get a quick, clean close-up of all the characters in a font, viewed either as a keyboard or as a font table, with FontDisplay. The displays are in actual size, and all styles are available. This

version is slightly crippled. You must pay the shareware fee to get a copy that prints. It comes with ample documentation. Requires 74K. \$50 (shareware). BMUG disk: Fonts 3. Jeffrey Shulman.

### 15 **FontMaster 88**

FontMaster 88 allows you to style or touch up existing fonts. It has a nice set of tools and is a good product for those with limited funds. It comes with first-class documentation. Requires 59K. Freeware. BMUG disk: Fonts 5. T. Tauri.

### 16 **Palencia 2.0**

Palencia is a beautiful ImageWriter font available in sizes from 9 to 48 points. The font is self-installing and can be used as the default font; however, it does not work with some programs, including FullWrite. The package contains an excellent manual. \$12 (shareware). BMUG disk: Fonts 12. Andrew Welch.

### 17 **York**

York, a sans serif ImageWriter font, is a sister font to Clairvaux, though not as elegant. \$10 (shareware). BMUG disk: Fonts 15. J. W. Leedom.

### 18 **Captain Magneto**

Captain Magneto, an old favorite that's still popular, is a space-fantasy adventure game. It is crude compared with some more recent games but is enjoyable nonetheless. Don't try it with MultiFinder. It comes with documentation. Requires 210K. \$20 (shareware). BMUG disk: Games 10. Al Evans.

### 19 **GunShy 1.21**

GunShy is a shareware version of the popular commercial program Shanghai — a solitaire game played with mah-jongg tiles instead of cards. In the shareware version, the mah-jongg tiles have Mac icons. The game supports color, and the icons are editable. Requires 46K. Freeware. BMUG disk: Games 6. E. C. Horvath.

### 20 **PhrazeCraze**

The documentation explains how PhrazeCraze, once a commercial game, became shareware. It's a takeoff on "Wheel of Fortune" and even includes sounds. You can edit the puzzles when they get too easy. Requires 161K. \$10 (shareware). BMUG disk: Games 6. Brad Pettit.

### 21 **Precision Cribbage 1.0**

Want to play cribbage against the computer? Well, you'll have to be good to

beat Precision Cribbage's Advanced mode. Beginners can get hints and view a histogram of the scoring odds of their card choices. Requires 189K. Freeware (send postcard). BMUG disk: Games 59. Doug Brent.

### 22 **Scarab of Ra 1.2**

In Scarab of Ra, you are an archaeologist exploring the maze inside a pyramid. You must find the treasures before animals get you. This game is very well developed and has many controls. Requires 188K. \$10 (shareware). BMUG disk: Games 8. Rick Holzgrafe.

### 23 **StuntCopter 2.0**

In StuntCopter you use the mouse to steer a helicopter with an acrobat hanging beneath. You try to drop the acrobat into the moving hay wagon, timing the maneuver just right. It has nice animation, multiple levels of play, sound, and a sense of humor. It's especially good for children. Requires 41K. Freeware. BMUG disk: Games 5. Doug Blehm.

## Graphics

### 24 **MacBillboard 4.0**

Use MacBillboard, a black-and-white-graphics program, for unusual jobs:



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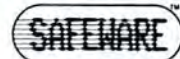
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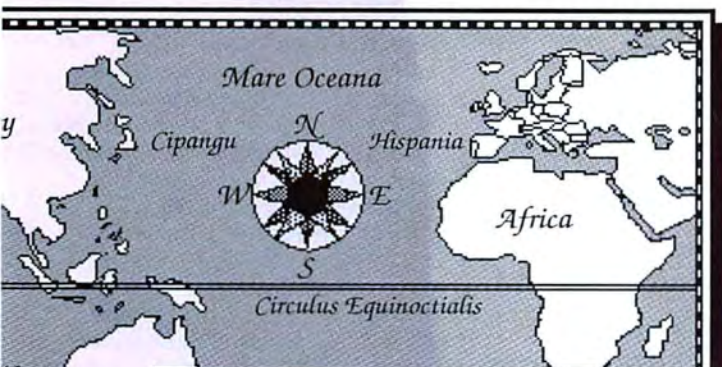
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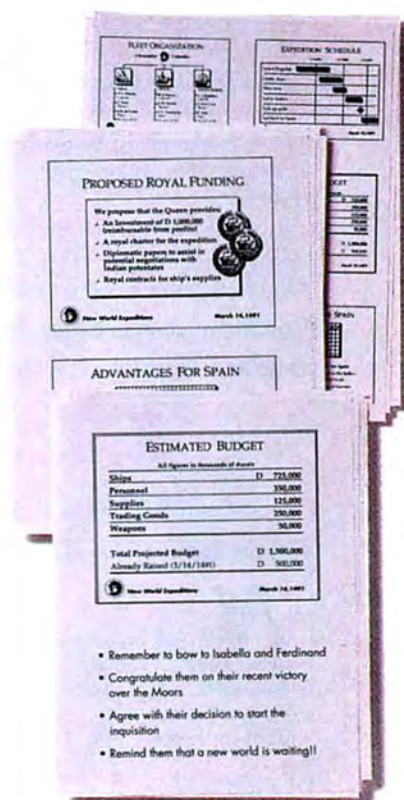
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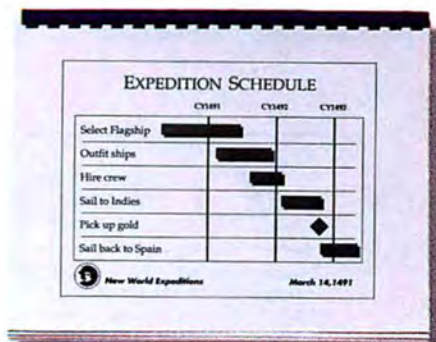


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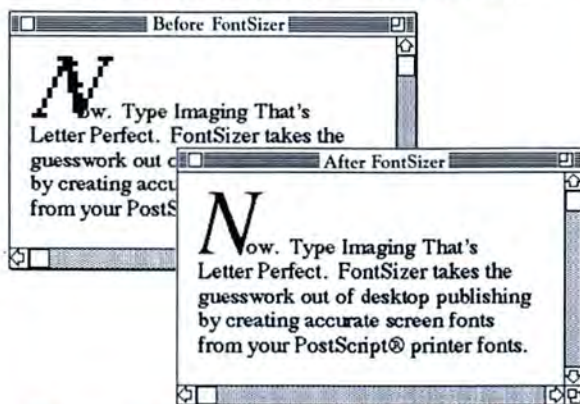
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## Shareware

T-shirts, greeting cards, posters, and such. You can print files enlarged up to 32 times. Requires 102.5K. \$35 (shareware). BMUG disk: Pictures 11. Donald Brown.

### HyperCard

#### 25 AcuStack

AcuStack is "A Beginner's Guide to Acupressure." It's a nicely done stack, demonstrating effective use of HyperCard. Requires 187K. \$15 (shareware). BMUG disk: Education 21h. Kevin T. Boyd.

#### 26 Bird Anatomy 1.2d

Bird Anatomy is an extremely well implemented and interesting stack. Even if you aren't interested in birds, this is a good example of HyperCard's potential. Requires 775K. Freeware. BMUG disk: Education 36h. Patrick Lynch.

### HyperCard Animation

#### 27 1.03

You get many tricks and hints on how to do animation in HyperCard with this stack. It's very helpful if you need to learn scripting. Requires 682K. Freeware. BMUG disk: Graphics 11h. Jeremy John Ahouse.

#### 28 Inigo Takes a Bath

Inigo Takes a Bath, Inigo Gets Out, and Your Faithful Camel were among the first HyperCard stacks released. These are charming stories by one of the original HyperCard team. Some people say these stories are for children. Requires 152K. \$9.95 (shareware). BMUG disk: Games 1h, 5h, and 11h. Amanda Goodenough.

### Programming

#### 29 MacsBug 6.1b1

The classic 68000 debugger, MacsBug, also works with the Mac II. Leave it in the System Folder, and debug to your heart's content. The object-level debugger inspects the heap, registers, and memory locations and disassembles machine code into assembly language. The disk contains extensive documentation. Requires 89K. Freeware. BMUG disk: Programming 2. Apple Computer.

#### 30 ResEdit 1.2

ResEdit is an extremely powerful resource editor that lets you modify windows, sounds, dialog boxes, icons, and such. Many Mac programmers use it; however, naive fiddlers should be careful — they're likely to lose the contents of their hard disk. It's now distributed with several accompanying files, including extensive notes. Requires 301.5K. Freeware. BMUG disk: Utilities 16. Apple Computer.



## Mac II and Later

### 31 ColorFinder

This INIT can be used in addition to the usual finders. ColorFinder finds the hidden color in icons on the desktop (there are more than you'd imagine). There's a fancy trash can too. Hackers can add color icons of their own. Requires 73.5K. Freeware. BMUG disk: Paris 14. Chris Derossi.

### 32 Easy Color Paint 0.4

Easy Color Paint is a free 16-color paint program with a surprising number of the goodies found in commercial programs. The palette can have up to 66 dithered colors. Originally intended for children, this program is now aimed at the child in all of us. Documentation is included. Requires 33K. Freeware. BMUG disk: Paris 19. Bruce Ballard.

### 33 Kolor 1.0

Kolor, a cdev, lets you set the colors of all basic Macintosh screen

elements—windows, controls, menus, even highlighting—to your taste. The colors are set through the Color Picker, so you can use the Mac's full range of colors. Requires 17.5K. Freeware. BMUG disk: Paris 17. Russ Wetmore.

### 34 Oscar

Put the Oscar INIT into your System Folder, and Oscar the Grouch comes to live in your Trash icon. Drag something to the trash, and Oscar rears his scuzzy head and sings, "I love trash." Requires 33.5K. Freeware. BMUG's next disk. Eric Shapiro and Ken Hornak.

### 35 SeaHaven Towers 1.0

A nice solitaire game for the contemplative, SeaHaven contains high-quality use of color and sound with a touch of animation. Requires 478K. \$20 (shareware). BMUG disk: Paris 14. Art Cabral Longwood Associates, P.O. Box 2162, Sunnyvale, CA 94087.

### 36 System Errors Table 2.2

You get a simple text listing of all error codes with brief notes when you use System Errors Table. It's done in DisplayDA. Requires 30K. Freeware. BMUG disk: DAs 3. Bill Steinberg.

## Sound

### 37 Chime 2.0

Install Chime, and every hour your Mac can sound like Big Ben, a grandfather clock, or a mantel clock. In fact, you can use other sounds as well. The sounds on the disk also work with SuperClock and Moire. There's documentation too. Requires 77K. Freeware. BMUG disk: Sounds 15. Robert Flickinger.

### 38 SoundMaster 1.2

With SoundMaster, you can customize the sounds played by your Mac on such occasions as startup or disk insertion. Many such sounds are available. Requires 26.5K. \$10 (shareware). BMUG disk: Sounds 4. Bruce Tomlin.

## Telecommunications

### 39 FreeTerm

A basic telecommunications program, FreeTerm emulates a TTY terminal, sends and receives ASCII text only, and supports the Xmodem protocol. Make sure you get the documentation too. Requires 45.5K. Freeware. BMUG disk: Telecom 2. William Bond.

### 40 MCS 1.1

MCS, a multichannel communications system, takes about as long to transmit a file as Xmodem does, but it allows uploading, downloading, and chat simultaneously. It also removes line noise. This is a bare-bones program for use by experienced hands only. It transmits files in binary format at up to 2,400 bps. Requires 12K. \$15 (shareware). BMUG disk: Utilities 16. Yves Lempereur.

### 41 TermWorks 1.3

TermWorks is a straightforward telecommunications program that supports macros and Xmodem transfer. Documentation is included. This may be all the telecommunications software you need. Requires 33.5K. \$20 (shareware, \$5 rebate per friend registered). BMUG disk: Telecom 2. James Rhodes.

## Utilities

### 42 Boomerang 2.0B7

This INIT works like the Recent window in HyperCard. Boomerang remembers the 15 folders you have most recently opened. You find it through its own icon in standard dialog boxes such as Open. Double-clicking on a folder on the list moves you there. It can make a new folder too. (The B in the version number stands for *beta*; it could also stand for *buggy*. We had some trouble with Boomerang under MultiFinder but hope the problem will be

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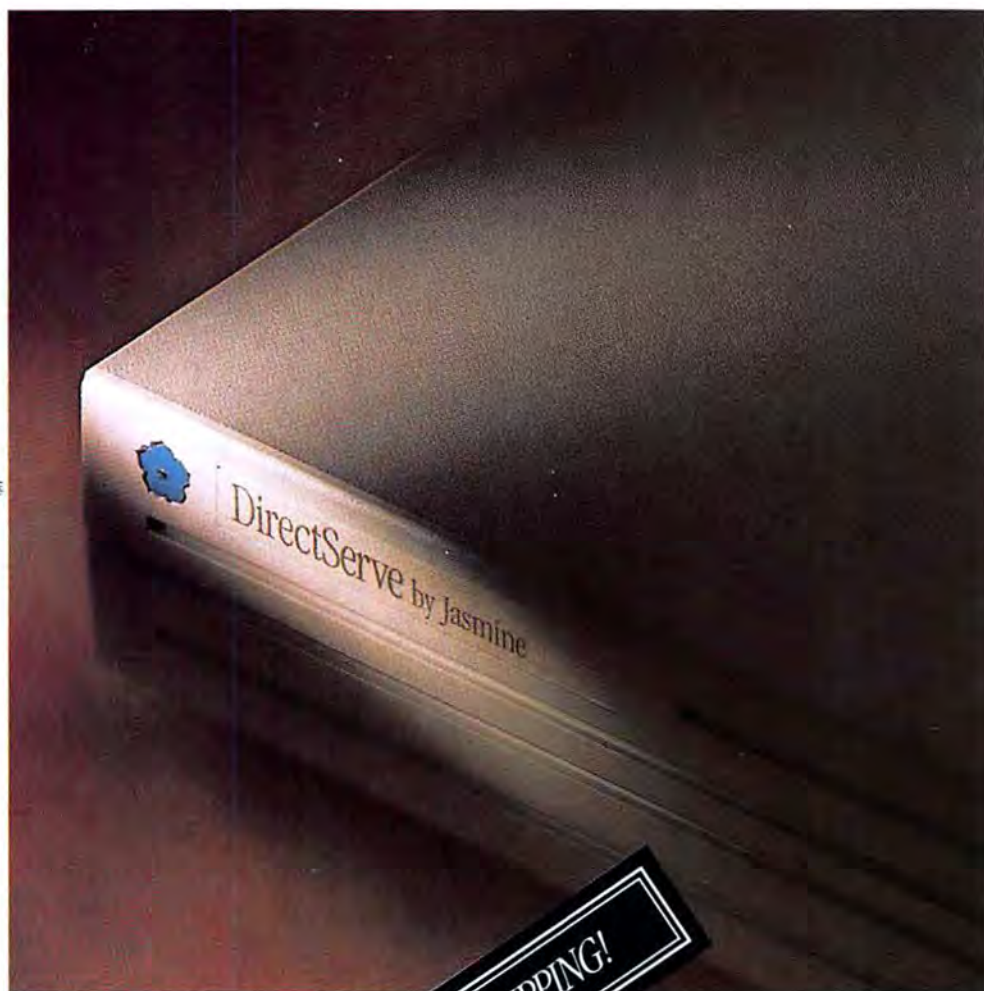
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cleared up by the time you read this.) Requires 51.5K. Freeware. BMUG disk: Utilities 13. Hiroaki Yamamoto.

#### 43 Disinfectant 1.2

Disinfectant is an excellent antiviral and virus-eradication program. This is the only application most people need to handle the virus problem. Requires 128K. Freeware. BMUG disk: Utilities 8. John Norstad.

#### 44 FileList 1.2

FileList is a basic but very effective file lister. Insert a disk, and its contents are quickly listed with volume and folder paths, size, dates, creator, and type. The resultant file can be printed, edited, or exported as text. The data transfers well to databases. FileList is currently the best of this type of program available. Requires 26.5K. Freeware. BMUG disk: Summer/Fall '89 Membership disk. Anonymous.

#### 45 INIT cdev 2.0

INIT cdev intentionally imitates the function of Aask, now a commercial product. It allows you to turn INITs, cdevs, and RDEVs on and off. It can be accessed at startup or through the Control Panel.

Documentation is included on the disk. Requires 13K. Happiware. BMUG disk: Utilities 13. John Rotenstein.

#### 46 Moire ScreenSaver 3.0

This popular screen saver displays animated moiré patterns of simple geometric shapes (your choice). Moire has good controls and great color. There is also a built-in menu-bar clock that chimes on the hour if the Chime INIT is installed. Sometimes Moire Idle blacks out the screen at an inauspicious moment, interfering with other programs. \$10 (shareware). BMUG disk: Paris 8. John Lim.

#### 47 SCSI Evaluator 1.0

Test SCSI devices, especially hard disks, and the SCSI port with SCSI Evaluator. It can measure the data-transfer rate and check for bad blocks, among other things. It's a nicely done package intended for advanced users. Registered users receive a 100-page manual. Requires 98.5K. \$20 (shareware). BMUG disk: Utilities 5. William Long.

#### 48 Stuffit 1.51

Compressed files take up less space and transmit more rapidly by modem.

Stuffit lets you compress files and also split a file between multiple floppy disks. This is as good as shareware gets. There is now a commercial version, but Raymond promises not to abandon the shareware one. Requires 115.5K. \$20 (shareware). BMUG disk: Telecom 1. Raymond Lau.

#### 49 SuperClock 3.5

SuperClock is a well-mannered, intelligent screen clock. It is always visible in the right corner of the menu bar unless a screen saver is in operation. This cdev has several options, including having the clock toll the hour with the sound of your choice. Documentation is included. Requires 11K. Freeware. BMUG disk: Bus 6. Steve Christensen.

#### 50 RAMDisk+ 2.08

RAM disks are still a good way to speed up your Mac, if used wisely. RAM-Disk+ makes your Mac think part of its RAM is a disk. It must be reset every time the Mac is rebooted, and it's tricky for beginners to use. Requires 36.5K. \$20 (shareware). BMUG disk: Utilities 4. Roger D. Bates.



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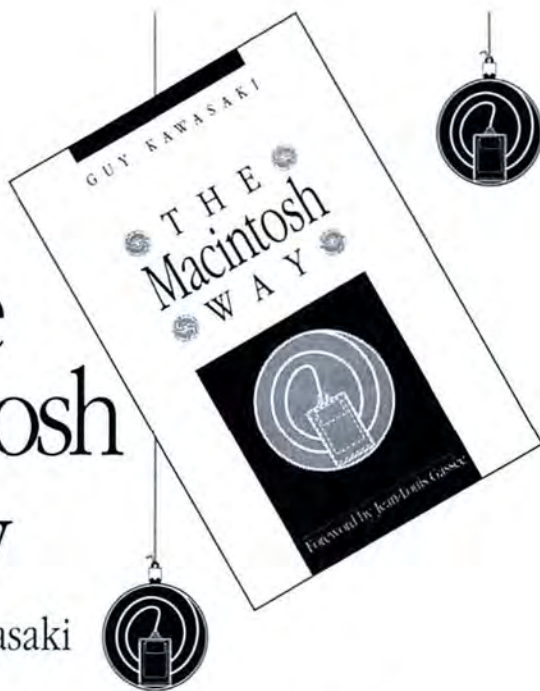


Macintosh II



# The Macintosh Way

by Guy Kawasaki



## Give the right gift.

Are you looking for the perfect Christmas gift for a Macintosh owner? Can't find a Macintosh portable<sup>1</sup> in stock? Hong Kong too far away? Countaches sold out at your Lamborghini dealer? Give The Macintosh Way. It's the thought that counts.

	The Macintosh Way	Macintosh Portable	Imitation Rolex President	Lamborghini Countach
Cost	\$19.95	\$5000.00	\$25.00	\$175,000.00
Availability	Local bookstore	Backordered	Hong Kong	Italy
Warranty	90 months	90 days	90 minutes	90 tickets
Competition	None	Toshiba	US Customs Dept.	Testarossa
Performance	0 to 220 pages, 2 hours	0 to Desktop, 30 seconds	NA	0-60mph, 4.7 seconds

## Get the right gift.

**Exercise:** Tear this ad out. Give it to your spouse, friend, or boss. See if you get The Macintosh Way for Christmas.

	The Macintosh Way	Mousepad	Socks	Tie
Cost	\$19.95	\$10.00	\$8.00	\$40.00
Fulfilling	✓	-	-	-
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Entertaining	✓	-	-	-
Returnable	-	✓	✓	✓

Published by Scott, Foresman and Company.  
\$19.95. Available from your local bookstore.

1. A portable is a computer that is too big, too heavy, and too expensive to be a laptop. This is because French people have big laps and employee discounts.

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Some of the Guide's features include:

- A complete listing of MacUser's highly-respected MiniFinders. These capsule reviews have long been used by retailers to guide buyers in their product purchase decisions.
- A complete industry directory that lists support information for every Macintosh vendor.
- A complete glossary that defines many of the commonly-used terms in the Macintosh market.

### More power to you.

The most powerful part of the PSG is the "Sales Briefs." Eye-catching pages that summarize the most important facts about individual products, enabling a salesperson to quickly pass on vital information to potential buyers. You'll make more sales using the "Sales Briefs."

If you would like more information about the MacUser/Ingram Micro D Pocket Selling Guide, contact Ingram Micro D.





# Books

In the heart of this electronic age, we still read books. Not as many as we did before there were computers around, mind you, but there are still piles of books scattered around the office. And the more we need to go and find out things, to dig in and really get to know our systems, the more we find ourselves turning to specialized books. Perhaps one day our books will all be digital extravaganzas of hypermedia, but for today, we still like the feel of the book in our hands. So with this thought in mind, we now turn to what we feel are some of the best Mac-related books available.

## Reference Books

### 1 **The Macintosh Bible**

For keeping its place on the bookshelf until that day when you absolutely, positively must get something done in a hurry and despair of ever finding it in the manual, we still have to recommend *The Macintosh Bible* by Arthur Naiman. Sure, it could be a little more focused and could cover more programs, but it has an excellent index, and around here, when we turn to it for help, we usually find the answer. If you use the major programs, it can save you time, lots of time. \$28. Berkeley, California: Goldstein & Blair, 1988.

### **The Macintosh Font Book**

For those of you struggling to understand the Byzantine world of Mac fonts, we recommend Erfert Fenton's sane and well-argued book on the subject. This slim, concise, and gently technical volume manages to go a long way toward demystifying fonts. *The Macintosh Font Book* explains the differences between printer and display fonts, clones and true PostScript, downloaded and resident fonts, and kerning and leading. If you need more technical data than this, you should consult technical documentation. \$23.95. Berkeley, California: Peachpit Press, 1989.

### **The Programmer's**

### 3 **Apple Mac Sourcebook**

Speaking of the technical side of things, no heavy-duty, industrial-strength Mac user can afford to be without this tome. The author, Thom Hogan, has waded through Apple's often turgid technical documentation and pulled out what looks to be all the essential data programmers, hackers, or lab rats need to have at hand beside the Mac. The material is presented in clear and simple tables and ranges from the very arcane — need the DefVideoRec data structure? — to the slightly more mundane — ROM traps, SANE routines, and system calls. \$22.95. Redmond, Washington: Microsoft Press, 1989.

### **The Visual Display of Quantitative Information**

### 4 **Information**

No desktop publisher or presenter can afford to be unfamiliar with a book that brings the art of displaying statistical and tabular data within reach. This is an elegant and essential guide to visual literacy in any publishing or presentation medium. Edward Tufte offers a diverse wealth of examples from the last thousand years or so and, by presenting a spectacular multi-dimensional chart of Napoleon's failed



PHOTOGRAPHY: PETER ALAN GOULD



## Insider Favorites

Although modesty keeps us from touting our own authors in this list, if you've enjoyed the writing of our editors, you might want to read the following:

- *Dr. Dobb's Essential HyperTalk Handbook* by Michael Swaine. \$24.95. Redwood City, California: M&T Books, 1988.

- *DOS PowerTools* by Paul Somerson. \$44.95. New York, New York: Bantam, 1988.

- *Dvorak's Guide to PC Telecommunications* by John Dvorak and Nick Anis. \$49.95. Berkeley, California: Osborne/McGraw-Hill, 1989.

- *Steve Jobs — The Journey Is the Reward* by Jeffrey Young. \$18.95. Glenview, Illinois: Scott, Foresman, 1988.

- *Using WordPerfect for the Macintosh* by Daniel Rosenbaum. \$21.95. Berkeley, California: Osborne/McGraw-Hill, 1988.

campaign to conquer Russia, shows that great infographics have their roots in the 18th century, not in *USA Today*. \$34, postpaid. Cheshire, Connecticut: Graphics Press, 1987.

### The Waite Group's HyperTalk Bible

**5** If the *hyper* universe intrigues you, we don't think you can beat *The Waite Group's HyperTalk Bible* as an introduction to HyperCard. This is a solid tutorial-based approach to the functions of HyperTalk, HyperCard's programming language, but it is written with enough sparkle and wit to keep the lesson plans and exercises constantly entertaining. \$24.95. Indianapolis, Indiana: Hayden Books, 1989.

### Stimulating Reading

Other books of choice around here for stimulating reading include:

**6** *Engines of Creation* Eric Drexler makes a surprisingly convincing case for the notion that in the near future, we'll create molecular computers for direct injection into the bloodstream. \$10.95. New York, New York:

Anchor Press/Doubleday, 1984.

### In the Age of the Smart Machine

**7** Shoshana Zuboff delves into the impact the desktop computer has had on the work force, workplace, and working psyches of many people in today's technological society. \$11.95. New York, New York: Basic Books, 1988.

### Information Anxiety

**8** This is an ambitious, provocative, confusing, and always entertaining attempt by Richard Saul Wurman to create an essentially hypermedia book within traditional publishing strictures. \$19.95. New York, New York: Doubleday, 1989.

### The Psychology of Everyday Things

**9** In this book, Donald Norman explains the difference between good and bad industrial design, with examples of the latter such as doors that give you no indication of which way they open, showers that always scald on first use, and fire extinguishers that invariably spray you in the face. \$19.95. New York, New York: Basic Books, 1988.

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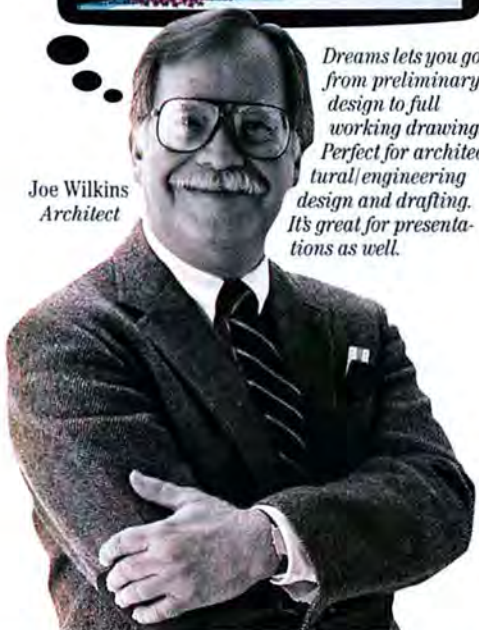
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## Just for Fun

We also like to get loose and funky and read just for the fun of it. Here are a couple of books that fit the bill.

### 10 **West of Eden**

If you haven't yet had enough of the cult of Apple and want a gossipy and juicy account of the development of the Mac and the Sculley/Jobs power struggle, take a look at Frank Rose's *West of Eden*. \$19.95. New York, New York: Viking Penguin, 1989.

### 11 **The Macintosh Way**

For pure insider's fun, investigate this singular, no-holds-barred view of the Mac universe from inside the brash mind of one of the original Macintosh evangelists, Guy Kawasaki, who left Apple to start his own software company, ACIUS, Inc. In his own inimitable way, Guy touches on all aspects of this high-tech industry — development, marketing, evangelism, support, and even "Driving Your Competitors Crazy." It's entertaining, insightful, and required reading for those in the business. \$19.95. Glenview, Illinois: Scott, Foresman, 1989.

## Inside the Macintosh

The real source of Macintosh knowledge lies in Apple's technical documentation — the *Inside Macintosh Series, Volumes 1-5*, published by Addison-Wesley (Reading, Massachusetts) at prices ranging from \$26.95 to \$19.95 per volume. For programmers and highly technical Mac users, there is no substitute. The information is as up to date as book-publishing schedules permit — usually about a year behind the latest developer documentation released by Apple. Much of the foundation for the series is based on work done by MacUser contributing editor Chris Espinosa, author of our Help Folder column and the original "guardian of the interface" on the Macintosh technical-writing team.

The *Inside Macintosh* books are anything but easy reading. A much more accessible technical introduction to the Macintosh can come from another trio of books in the Apple/Addison-Wesley Technical Library series — *Programmer's Introduction to the Macintosh Family* (\$22.95), *Technical Introduction to the Macintosh Family* (\$19.95), and the

*Macintosh Family Hardware Reference* (\$26.95). You still need to be technically literate and a definite Macintosh aficionado to make it through these tomes, but if you've ever wondered how the Event Manager really works, the Technical Library is the place to find out.

The success of the Technical Library has now spawned the Addison-Wesley Communications Library, which is dedicated to explaining the intricacies of networking as it relates to the Macintosh. The first three titles in this series offer an increasingly complex series of explanations for different levels of users and can serve as an excellent basis for building networking knowledge. *Understanding Computer Networks* (\$9.95), the primer in the group, includes an introduction by Jean-Louis Gassée. *AppleTalk Network System Overview* (\$14.95) takes the middle ground and provides a good technical introduction to the world of AppleTalk LANs. And finally, *Inside AppleTalk* (\$34.95) is the full-blown technical documentation for the protocol.

## TimeOut

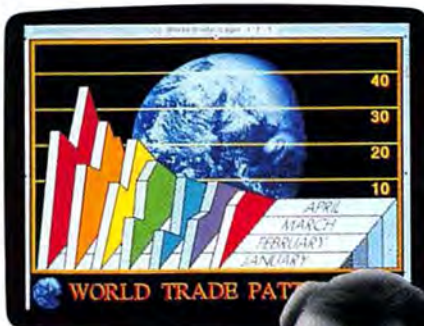
Vol. 1 No. 3

### Swiss Time

Reader writes have been coming in and out of the office. This section is devoted to helping you find the time to read this book. The book is a collection of articles by various authors. The book is a collection of articles by various authors. The book is a collection of articles by various authors.

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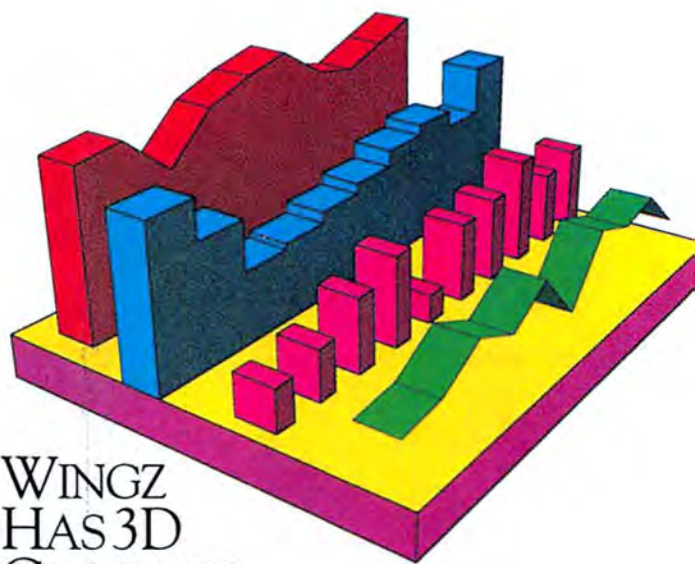
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**HIDE CELL GRID**

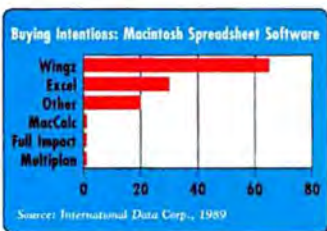
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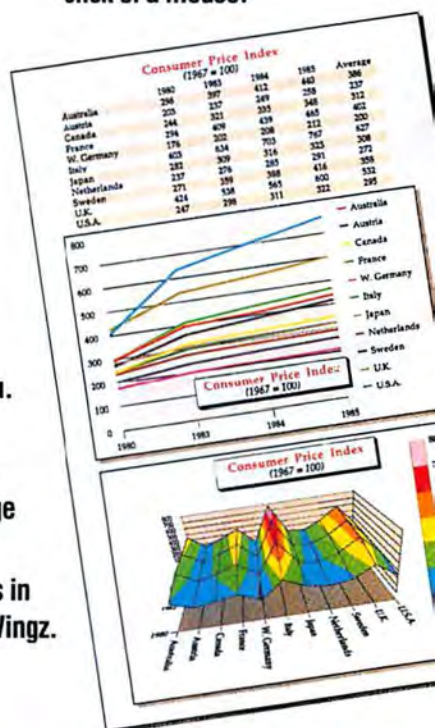
easier and faster than menus or typing in commands. (You can also put other Macintosh controls, including radio buttons, check boxes and slide bars, directly onto the worksheet.) Just as important, buttons unleash the power of HyperScript. So you can attach lists of frequently used commands to buttons, and then execute them with the click of a mouse.

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# Getting It on Tape

Fed up with floppies? MacUser Labs tests  
30 tape drives that offer cheaper and  
easier backup.

PHOTOGRAPHY: FRED STIMSON

**By John Rizzo and the  
MacUser Labs staff**

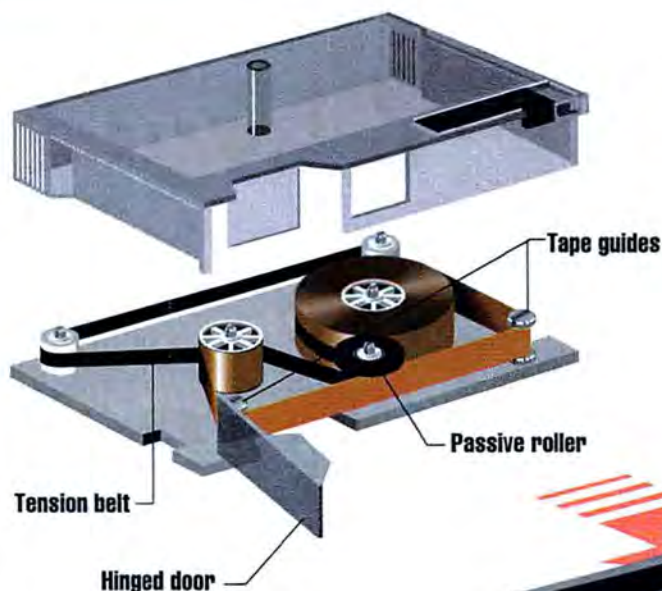
**MacUSER  
LABS**

**B**ackup is not something you should consider lightly. It's not a matter of *if* your hard disk will crash but when. Even so, your disk doesn't have to rattle and smoke for you to lose data. Parts of the disk can go bad quietly, ruining a file here and there. And these days, the specter of file death from viruses is looming on everyone's horizon.

There are almost as many ways to back up data as there are to lose it. As part of our continuing coverage of this all-important subject, *MacUser* has examined removable media (see "The Never-Ending Storage," March '89), software for floppy-disk backup (see "Hard-Disk Backup: Moving and Storing," July '89), and optical media (see "Letting in the Light," November '89). We now take an in-depth look at 30 popular tape drives — those using DC 2000 minicartridges, DC 600 cartridges, and CT-600 cassettes — ranging in price from \$695 to \$2,395.



### How It Works: Tape-Backup Drive



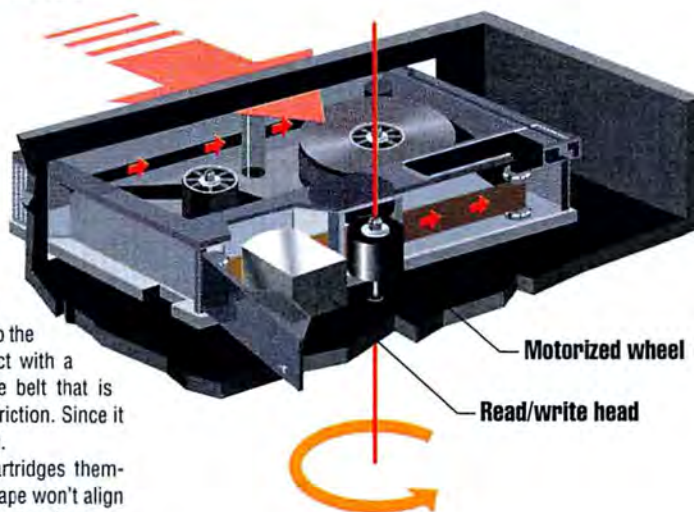
#### Inside the Cartridge Shell

A cartridge has two reels of tape that are driven by a tension belt, which in turn is wrapped around a single roller. The tape loops around two tape guides and meets the drive's read/write head through a small hinged door.

#### Cartridge Transport and Alignment

When you insert a cartridge into a drive, its hinged door swings open, allowing the read/write head access to the tape. The cartridge's passive roller comes into contact with a single motorized wheel. When this wheel rotates, the belt that is wrapped around the roller drives both reels of tape by friction. Since it is under constant tension, the tape is unlikely to stretch.

The tape guides for cartridges reside inside the cartridges themselves, an approach that increases the chance that the tape won't align properly with the read/write head because the guides and head are not part of the same base.



In testing the backup and restore speeds of each drive, we found several throughput thoroughbreds as well as a few nags that would be best put out to pasture. Because tape drives do not live or die by raw performance alone, we also examined the relative merits of different hardware, software, and media.

#### The Case for Tape

Tape is just one of many different backup media available today, so you should understand its relative strengths and weaknesses before committing your dollars and data. First and foremost, on the basis of cost per megabyte, tape is

cheap (see Table 1). And if you've ever shuffled a stack of floppies during a big backup, you'll appreciate the convenience afforded by tape's large capacity. Finally, since it's removable, you can simply buy more tapes if you need additional storage.

Its low cost and high capacity make tape ideal for short-term archiving. Daily backups can be filed away to give you access to earlier versions of files, and duplicate backups can be kept off-site for added data security. However, like all magnetic media, tape eventually fades and loses its data. And the stress put on tape as it bends and stretches can also

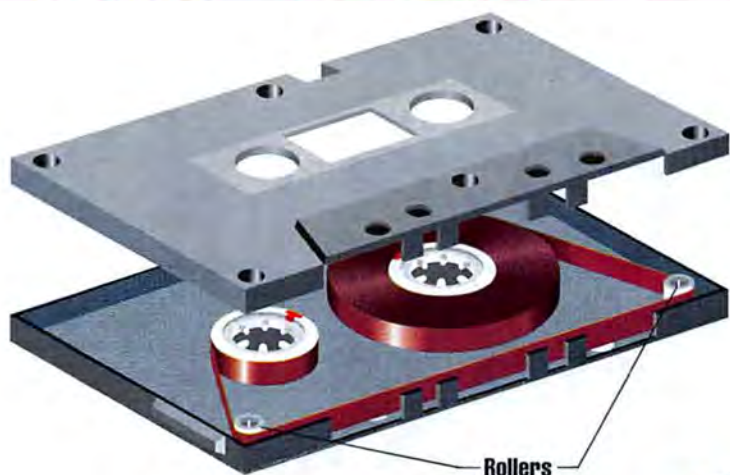
cause reliability problems.

So if you are looking for long-term archiving, you might consider WORM (write once, read many) drives, which cost several thousand dollars more than tape drives but offer 100-year storage lifetimes.

Tape was designed strictly as a backup medium. You can't boot up your Mac from tape drives, and if your hard-disk drive dies completely, you won't be able to launch applications from the tape drive either.

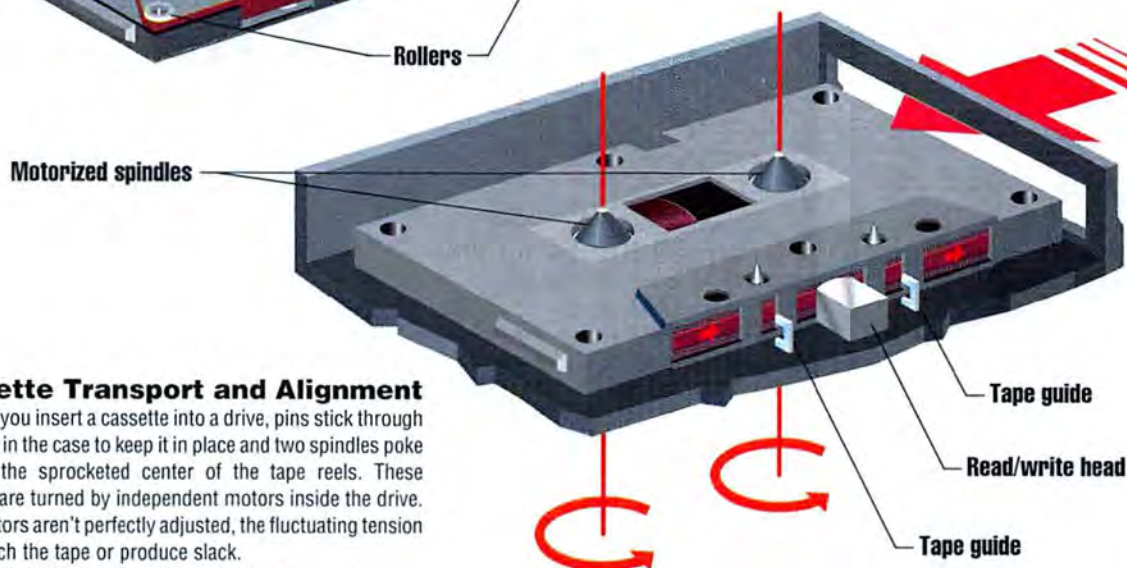
In fact, individual users with small hard-disk drives may be better off buying another hard drive and dedicating it to





### Inside the Cassette Shell

A data cassette looks just like a standard audiocassette, except that it has a notch on top and a sliding write-protect switch. The tape winds around two reels and moves across rollers at the open end of the case, where it becomes accessible to the drive's read/write head.



### Cassette Transport and Alignment

When you insert a cassette into a drive, pins stick through the holes in the case to keep it in place and two spindles poke through the sprocketed center of the tape reels. These spindles are turned by independent motors inside the drive. If the motors aren't perfectly adjusted, the fluctuating tension can stretch the tape or produce slack.

The tape guides for cassettes are in the drive on either side of the read/write head, thus increasing the likelihood of the tape's getting caught in the drive.

backup. Backing up to another hard drive is simpler and faster and may be cheaper than going to tape. Of course, you'll have a fixed amount of storage, but if your primary hard disk crashes, the backup is always ready to take its place. Unlike a hard disk, when a tape "crashes," its data is next to impossible to recover. (CIPHER's Irwin Products Group does offer a free emergency tape-recovery service to its customers.)

### Tape Types

OK, so you've decided that tape backup's low cost and ease of use are for you. Before choosing a specific drive,

you should decide what type of tape is best suited to your needs. Drive classes are determined by the kind of tape they use.

Tape itself comes in a confusing array of shapes, sizes, and formats. Drives that use reel-to-reel tape — the old standby of the mainframe world — are available for PCs and Macintoshes, but they are a bit unwieldy for most users. Today, most tape for desktop computers comes in cartridges and cassettes, the media used by the drives we evaluated to produce this report.

The most popular types of data cartridges are the pocket-sized DC 2000

(which are called minicartridges) and the full-sized DC 600. The standard-length DC 2000 minicartridge generally holds 40 megabytes, although the Irwin 5080 and Tecmar QT-Mac80 drives can squeeze approximately 80 megabytes onto each standard-length tape (205 feet) by writing in high-density formats. DC 600 cartridges look the same as minicartridges, except that they have larger dimensions and they can hold 150 megabytes each.

Tape-manufacturing engineers have developed a simple way to increase the capacity of most existing tape drives that involves stuffing more tape into the

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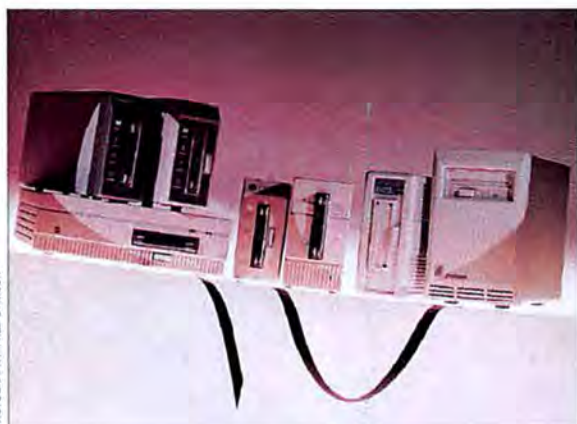
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**DC 2000 minicartridge — left stack (top to bottom): Tecmar QT-Mac40 (left), Tecmar QT-Mac80 (right), Apple Tape Backup 40SC; remaining drives (left to right): Jasmine DirectTape, Irwin 5080, Braemar SX40, Tallgrass TG-4000**

cartridges. These extended-length tapes boost the maximum capacity of a DC 2000 minicartridge by roughly 50 percent and push DC 600 cartridges from 150 to 250 megabytes (see Table 2). To use the increased capacity of these extended-length tapes, a drive's firmware and backup software must be able to recognize them. All the DC 600 drives we examined can use the 250-megabyte cartridges, but of the DC 2000 drives, only the Braemar SX40, Irwin 5080, Tallgrass TG-4000, and Tecmar QT-Mac80 can take advantage of the 307.5-foot minicartridges. New techniques that further increase tape's storage capacity are on the way (see the "On the Horizon" sidebar).

Just as there are two types of cartridges, cassette tapes also come in two varieties: the CT-600H, which holds 60 megabytes, and the CT-600N, which holds 155 megabytes. These data cassettes look very much like the standard

audiocassettes for your car stereo or Walkman, except that they have a notch on top and a sliding write-protect switch. TEAC is the sole (OEM) original-equipment manufacturer of CT-600 cassette-drive mechanisms, and Maxell is the primary source of data cassettes. Data cassettes are not available in extended-length versions.

Among the CT-600H drives, there are two different mechanisms, the TEAC 45S and the newer 45S2. The latter is slightly faster than the 45S because it has a larger buffer and a Locate command that speeds tape positioning. All things being equal, choose a drive with a TEAC 45S2 rather than one with a 45S, but don't pay too high a premium for the newer technology.

## Physical Fitness

Cartridges and cassettes differ in their design and construction (see the "How It Works: Tape-Backup Drive" sidebar).

Cartridge drives have a rotating wheel that turns a passive roller inside the cartridge; the roller drives a belt that moves the tape. The advantage of such a mechanism is that it puts the tape under constant tension, making it less likely to stretch. The two reels of tape in a cassette, on the other hand, have sprocketed spindles at their center. These spindles are turned by independent motors inside the drive. If the motors aren't precisely synchronized, the tension can fluctuate, stretching the tape.

The method for aligning the tape and the read/write head also differs between the two systems. As with audiocassette decks, the positioning guides for CT-600 tapes are in the drive right next to the read/write head; the positioning mechanisms for DC 2000 and DC 600 tapes reside inside the cartridges themselves. The cartridge approach increases the chance of misalignment with the read/write head but reduces the likelihood of the tape's getting caught in the drive, as with a tape-eating cassette deck.

## Timed Tape

The speed of a tape drive is important only if you plan to be around during backup. Given their capacities, even the slowest of the drives we reviewed would be able to complete an unattended backup overnight, and most are fast enough to complete the job during lunch.

We tested the speed of each drive, using the bundled backup software, and performed a file-by-file backup of two 15-megabyte file sets (one comprising a lot of large files and another of mostly

**One of the most attractive features of tape backup is its low cost per megabyte compared with other common storage choices. The cartridge and cassette tapes used in the drives reviewed this month aren't the most economical, nor do they sport the highest capacities, but the drives themselves are relatively inexpensive. Thus, the combined cost of the tapes and drives is lower than that of almost any other option.**

**Table 1: Cost Characteristics**

Media (increasing \$/MB)	Average cost/MB	Capacity (megabytes)	Cost of media	Cost of drive
Video-8 (8mm)	\$0.004	2,350 MB	\$10	\$6,000 - 8,000
DAT (4mm)	\$0.03	1,200 MB	\$35	\$4,000 - 6,000
WORM	\$0.14	400 - 1,000 MB	\$65 - 125	\$3,000 - 5,800
DC 600 cartridge	\$0.23	150 - 250 MB	\$25 - 75	\$1,400 - 2,400
CT-600N cassette	\$0.23	155 MB	\$35	\$1,000 - 1,700
Erasable optical	\$0.28	650 - 1,000 MB	\$200 - 250	\$4,500 - 8,000
DC 2000 minicartridge	\$0.40	40 - 128 MB	\$20 - 40	\$900 - 1,800
CT-600H cassette	\$0.50	60 MB	\$30	\$700 - 1,600
Floppy disk	\$1.70	.8 - 1.4 MB	\$1 - 3	\$150 - 625
Hard cartridge (SyQuest)	\$2.27	44 MB	\$100	\$1,150 - 1,800
Flexible disk (Bernoulli)	\$2.70	10 - 44 MB	\$25 - 125	\$900 - 2,000
Hard disk	\$18.00	20 - 760 MB	NA	\$300 - 15,900



small files). Our hardware was a 2-megabyte Mac II with an internal 40-megabyte Quantum hard drive, and the Control Panel's RAM cache was set at 32K. After each backup, we restored the files and verified the data on a sector-by-sector basis, using the Macintosh Programmers' Workshop Equal command.

Average backup and restore results for the combined file sets appear in Figure 1. The performance results fell into groups by type of drive, with some deviation because of exceptionally good or bad software. As a whole, the CT-600N cassette drives are the fastest, with throughputs consistently more than 3.5 megabytes per minute. The CT-600H cassette drives and DC 600 cartridge drives both showed speeds generally in the range of 2.5 to 3.0 megabytes per minute. Overall, the DC 2000 minicartridge drives were the slowest, with speeds from .2 to 2.2 megabytes per minute.

The Apple Tape Backup 40SC was the slowest drive of all, with a transfer speed of less than 200K per second. At that rate, it's faster to copy files to a floppy by using the click-and-drag approach in the Finder! The Tallgrass TG-4000 and the two Relax CT-600 drives were slower than the norms in their classes because of their inefficient software, which is licensed from D-K Research. However, we were able to bring them up to the average speed by using Retrospect, a third-party backup program (see the "Labs Brief: Tape-Backup Software" article in this issue).

With a transfer rate of 3.4 megabytes per minute, the Tecmar QT-Mac80 drive

**DC 600 cartridge — left stack (top to bottom): Tecmar QT-Mac150, TLC Legacy 150s, MicroNet MT-150; center stack: NovaStor NST-150, Maxcess 150t, FWB hammerTape15; right stack: Irwin 5150, RACET SA150TE**



was the speed demon of the minicartridge class, finishing just shy of the fastest CT-600N drives. One reason why the Tecmar QT-Mac80 and its siblings, the Tecmar QT-Mac40 and Jasmine DirectTape, perform as well as they do is because they contain a highly optimized asynchronous-SCSI driver in firmware. In contrast, drives without asynchronous-SCSI drivers are not as efficient and must wait for "go ahead" signals from the computer before initiating each data transfer.

With one exception, all the drives performed flawlessly. The problematic product, the Irwin 5080 (a DC 2000 minicartridge drive), repeatedly bombed while restoring, and it failed the data-verification tests. These problems were replicated on three different units using several versions of the drive's firmware ROM and software. Cipher's Irwin Products Group acknowledged the problem and showed us a beta copy of an updated version of its EzTape program that seems

to have squashed the bug. It should be shipping by the time you read this. However, since *MacUser* evaluates only shipping products, our review is based on the earlier, buggy version.

### Bundles of Joy

Once you've settled on a tape type, you must choose your backup software, which determines how backups are performed and — to a lesser extent — a drive's capabilities and speed. All the tape drives except the Irwin 5150 come bundled with backup and restore software. Many drives use exactly the same software, though in a few cases it masquerades under different private-label names with some cosmetic changes. For simplicity's sake, we'll refer to the developer's name for the software (see Table 4), even though the drive vendor is usually the one that provides technical support for the bundled application.

If you aren't satisfied with the bundled

**Table 2: Naming Tape**

Standard Length			Extended Length	
Name	Capacity	Format	Name	Capacity
<b>DC 2000 minicartridge</b>				
DC 2000	40 MB	gamma	DC 2120	60 MB
DC 2000	40 MB	kappa	DC 2120	60 MB
DC 2080	80 MB	rho	DC 2120	120 MB
DC 2110	86 MB	nu	DC 2165	128 MB
<b>DC 600 cartridge</b>				
DC 6150	150 MB	none	DC 6250	250 MB
<b>CT-600H cassette</b>				
CT-600H	60 MB	none	NA	NA
<b>CT-600N cassette</b>				
CT-600N	155 MB	none	NA	NA

The names of the different cartridges and cassettes depend on format, length, and manufacturer. (The names listed are those most commonly used.) Extended-length cartridges are not yet widely available, and there are no plans to offer extended-length cassettes.



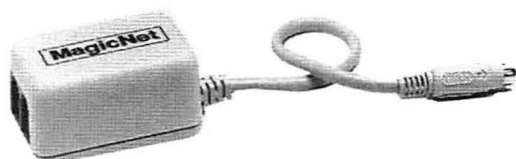
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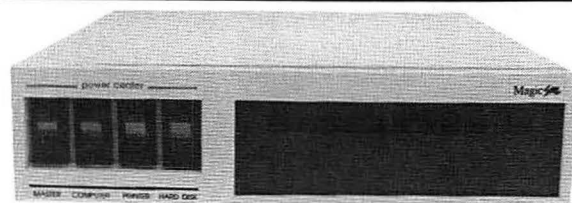


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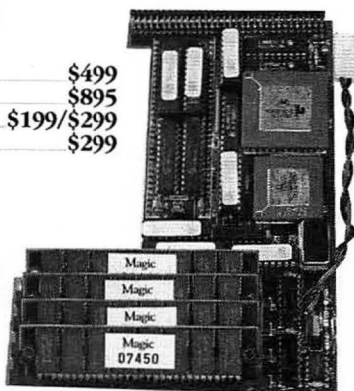
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Table 3: Tape-Drive Features

	DC 2000 Minicartridges						
Product	Apple Tape Backup 40SC	Braemar SX40	Irwin 5080	Jasmine DirectTape	Tallgrass TG-4000	Tecmar QT-Mac40	Tecmar QT-Mac80
Mouse rating							
Comments	Slowest of all drives. No-frills software. 40-MB limit. Zero footprint. No scheduling.	Consistent backup and restore speeds. 60-MB limit. No scheduling.	Crashed repeatedly during restore; failed to verify. An upgrade may fix problem and would change rating to 2.5 mice. PC-compatible.	Least expensive DC 2000. Small case. 40-MB limit. Excellent software.	Slowest restore of all drives. Poor software. No incremental backup. 60-MB limit. Boxy case.	Good DC 2000 performance. Small case. 40-MB limit. Excellent software.	Most expensive, but highest capacity and fastest DC 2000. Excellent software. Small case.
List price	\$1,579	\$995	\$1,695	\$899	\$1,195	\$1,395	\$1,795
OEM mechanism	3M 2:1	Braemar QB525S	Irwin 5080	Braemar QB350S	Tallgrass MC40 SCSI	Braemar QB350S	3M MCD II
Capacity	40 MB	40/60 MB	80/120 MB	40 MB	40/60 MB	40 MB	86/128 MB
Tapes bundled	one DC 2000	none	one DC 2080	two DC 2000	one DC 2000	one DC 2000	one DC 2110
Software bundled*	Tape Backup 40SC <sup>1</sup>	FastTape	EzTape	QTBackup	D-K Research	QTBackup	QTBackup
Connector(s)	two 50-pin SCSI	one 50-pin SCSI	two 50-pin SCSI	one 25-pin SCSI	two 50-pin SCSI	one 25-pin SCSI	one 25-pin SCSI
SCSI ID selector	push button	rotary switch	rotary switch	push button	rotary switch	push button	push button
Indicator lights	access, power	access	access, power	read, write, power, select	power/error	read, write, power, select/error	read, write, power, select/error
Warranty	90 days	1 year	1 year	2 years, 30-day guarantee	3 years	2 years	2 years
Manufacturer	Apple Computer 20525 Mariani Ave. Cupertino, CA 95014 (408) 996-1010	Braemar 11400 Rupp Drive Burnsville, MN 55337 (800) 328-2719 or (612) 890-5135	Cipher's Irwin Products Group 2101 Commonwealth Blvd. Ann Arbor, MI 48105 (313) 930-9000	Jasmine Technologies 1740 Army St. San Francisco, CA 94124 (800) 347-3228 or (415) 282-1111	Tallgrass Technologies 11100 W. 82nd St. Lenexa, KS 66214 (800) 825-4727 or (913) 492-6002	Tecmar 6225 Cochran Road Solon, OH 44139-3377 (800) 624-8560 or (216) 349-0600	Tecmar 6225 Cochran Road Solon, OH 44139-3377 (800) 624-8560 or (216) 349-0600

	CT-600H Cassettes						
Product	CMS MacStack Tape 60	Crate TapeCrate 60	EMAC-60T	MagicTape 60	MaynStream 60	MicroNet MT-60	Microtech T60
Mouse rating							
Comments	Good speed. No scheduling. Zero footprint.	Good speed. No scheduling. Zero footprint.	Good speed. No scheduling.	Least expensive of all drives. Fastest CT-600H. Three switched AC outlets. TEAC 45S2 mechanism. Zero footprint.	Most expensive CT-600H. Average speed. No scheduling. Built-in handle. PC-compatible.	Good speed. No scheduling. Zero footprint.	Good speed. No scheduling. TEAC 45S2 mechanism. Zero footprint.
List price	\$995	\$739	\$999	\$695	\$1,595	\$1,095	\$799
OEM mechanism	TEAC 45S	TEAC 45S	TEAC 45S	TEAC 45S2	TEAC 45S	TEAC 45S	TEAC 45S2
Capacity	60 MB	60 MB	60 MB	60 MB	60 MB	60 MB	60 MB
Tapes bundled	one CT-600H	one CT-600H	one CT-600H	one CT-600H	one CT-600H	two CT-600H	one CT-600H
Software bundled*	FastTape	FastTape	FastTape	Retrospect	MaynStream	FastTape	FastTape
Connector(s)	two 25-pin SCSI	two 25-pin SCSI	two 50-pin SCSI	two 50-pin SCSI	two 50-pin SCSI	two 50-pin SCSI	two 50-pin SCSI
SCSI ID selector	DIP switch	external jumper	push button	push button	rotary switch	DIP switch	push button
Indicator lights	access	access	access, power	access, power	access, power	access, power	access, power
Warranty	1 year	2 years	1 year	1 year, 30-day guarantee	1 year, 30-day guarantee	1 year	2 years
Manufacturer	CMS Enhancements 1372 Valencia Ave. Tustin, CA 92680 (714) 259-9555	Crate Technology 6850 Vineland Ave. Bldg. M North Hollywood, CA 91605 (800) 543-5808 or (818) 766-4001	EMAC Division of Everex 48431 Millmont Drive Fremont, CA 94538 (800) 821-0806, ext. 2222, or (415) 683-2222	MacProducts USA 8303 Mopac Expy. Suite 218 Austin, TX 78759-8369 (800) 622-3475 or (512) 343-9441	Maynard Electronics 460 E. Semoran Blvd. Casselberry, FL 32707 (800) 821-8782 or (407) 263-3500	MicroNet Technology 20 Mason Irvine, CA 92718 (714) 837-6033	Microtech International 158 Commerce St. East Haven, CT 06512 (800) 325-1895 or (203) 468-6223

\*Software features are covered in Table 4.

<sup>1</sup>May now be bundled with Retrospect.<sup>2</sup>May now also be bundled with an image-backup program.<sup>3</sup>Price includes necessary NuBus card.



## DC 600 Cartridges

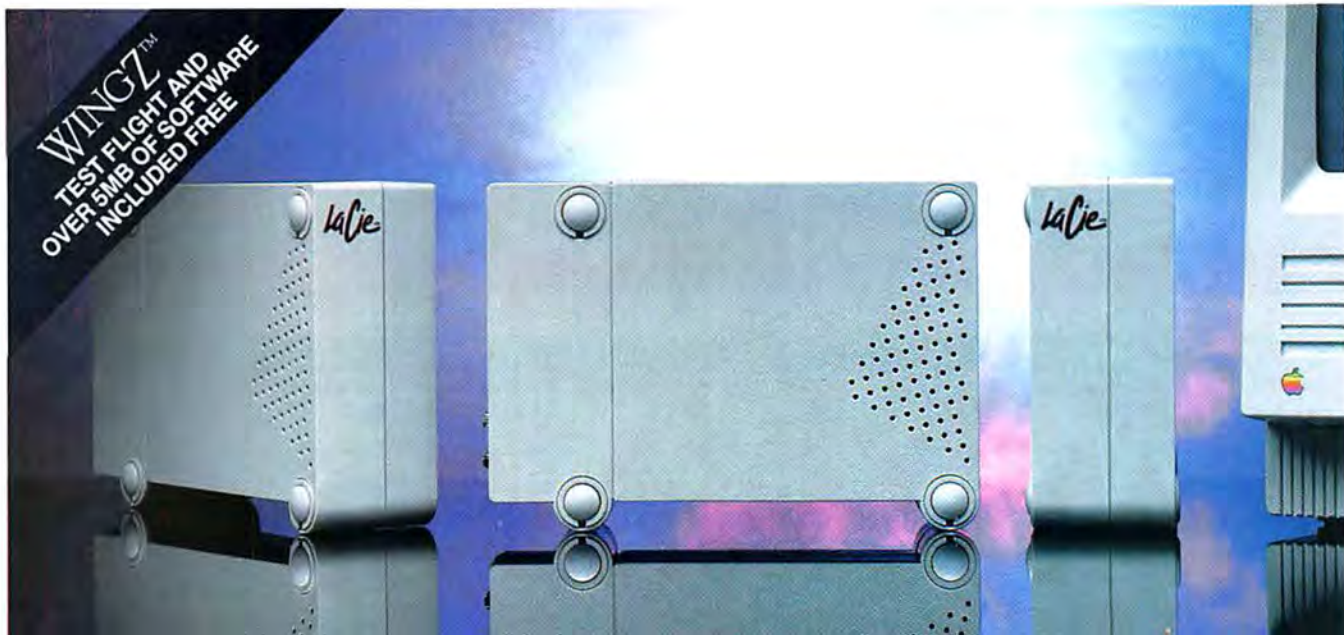
Irwin 5150 ☆☆☆	FWB hammerTape150 ☆☆☆☆1/2	Maxcess 150t ☆☆☆☆1/2	MicroNet MT-150 ☆☆☆☆1/2	NovaStor NST-150 ☆☆☆☆	RACET SA150TE ☆☆☆☆	Tecmar QT-Mac150 ☆☆☆☆	TLC Legacy 150s ☆☆☆☆1/2
No software provided, but fastest DC 600 performance when tested with Retrospect. PC-compatible.	Fast performance. Full-featured software. Zero footprint.	Fast performance. Full-featured software. Zero footprint.	Good performance. No scheduling. Hinged doors.	Slowest DC 600. Full-featured software. Zero footprint. Hinged doors.	Biggest case of all drives. Good backup and restore speed. No scheduling.	Most expensive of all drives. Best overall DC 600 speed. PC-compatible. Non-SCSI. Detailed control panel.	Least expensive DC 600. Average speed. Full-featured software. Difficult to install. Small case.
\$1,795	\$1,895	\$1,795	\$1,695	\$1,495	\$1,995	\$2,395*	\$1,399
Irwin 5150	Archive 2150S	Archive 2150S	Tandberg TDC 3660	Tandberg TDC 3660	Archive 2150S	Wanglek 5150EN	Wanglek 5150ES
150/250 MB	150/250 MB	150/250 MB	150/250 MB	150/250 MB	150/250 MB	150/250 MB	150/250 MB
one DC 6150	one DC 6150	one DC 6150	two DC 6150	none	one DC 6150	one DC 6150	one DC 6150
none*	Retrospect*	Retrospect	FastTape	QuTape	File By File	QBackup	Retrospect
two 50-pin SCSI	two 50-pin SCSI	two 50-pin SCSI	two 50-pin SCSI	two 50-pin SCSI	two 50-pin SCSI	one 37-pin	one 50-pin SCSI
rotary switch	push button	push button	DIP switch	DIP switch	push button	NA	undocumented jumper
access, power	access, power	access, power	access, power	power	access	read, write, power, Mac power, track, select, forward, reverse	access
1 year	1 year	2 years	1 year	1 year	1 year	2 years	1 year
Cipher's Irwin Products Group 2101 Commonwealth Blvd. Ann Arbor, MI 48105 (313) 930-9000	FWB 2040 Polk St., Suite 215 San Francisco, CA 94109 (415) 474-8055	Maxcess 3440 Market St. Suite 100 Philadelphia, PA 19104 (800) 356-2892 or (215) 386-2208	MicroNet Technology 20 Mason Irvine, CA 92718 (714) 837-6033	NovaStor 31828 Village Center Rd. Westlake Village, CA 91361 (818) 707-9900	RACET computes, Ltd. 3150 E. Birch St. Brea, CA 92621 (714) 579-1725	Tecmar 6225 Cochran Road Solon, OH 44139-3377 (800) 624-8560 or (216) 349-0600	Tense Electronix Corp. 200 Butterfield Drive, Unit B Ashland, MA 01721 (508) 881-6442

## CMS CT-600N Cassettes

Relax Tape 60 Plus ☆☆1/2	Ruby StarDrive 60TX ☆☆☆☆1/2	MacStack Tape 150 ☆☆☆☆	Crate TapeCrate 155 ☆☆☆☆	EMAC Impact Tape ☆☆☆☆	Microtech T150 ☆☆☆☆	Relax Tape 150 Plus ☆☆	Ruby StarDrive 150TX ☆☆☆☆
Slowest CT-600H. Poor software. Three switched AC outlets. TEAC 45S2 mechanism. Zero footprint.	Good speed. No scheduling. Extra AC outlet. TEAC 45S2 mechanism. Zero footprint.	One of the fastest drives. No scheduling. Zero footprint.	Fast performance. No scheduling. Zero footprint.	Smallest case of all drives; lightweight, portable unit. No scheduling. Most expensive CT-600N.	One of the fastest drives. No scheduling. Zero footprint.	Slowest CT-600N; poor software. Three switched AC outlets. Zero footprint.	One of the fastest drives. Least expensive CT-600N. Extra AC outlet. No scheduling. Zero footprint.
\$995	\$779	\$1,445	\$1,049	\$1,699	\$1,099	\$1,395	\$999
TEAC 45S2	TEAC 45S2	TEAC N50	TEAC N50	TEAC N50	TEAC N50	TEAC N50	TEAC N50
60 MB	60 MB	155 MB	155 MB	155 MB	155 MB	155 MB	155 MB
one CT-600H	one CT-600H	one CT-600N	one CT-600N	one CT-600N	one CT-600N	one CT-600N	one CT-600N
D-K Research	FastTape	FastTape	FastTape	FastTape	FastTape	D-K Research	FastTape
two 50-pin SCSI	two 50-pin SCSI	two 25-pin SCSI	two 25-pin SCSI	two 50-pin SCSI	two 50-pin SCSI	two 50-pin SCSI	two 50-pin SCSI
push button	push button	DIP switch	external jumper	push button	push button	push button	push button
access, power	access/power	access	access	power	access, power	access, power	access/power
1 year	1 year, 30-day guarantee	1 year	2 years	1 year	2 years	1 year	1 year, 30-day guarantee
Relax Technology 3101 Whipple Road, #22 Union City, CA 94587 (800) 848-1313 or (415) 471-6112	Ruby Systems 188 S. Whisman Road Mountain View, CA 94041 (800) 888-1668 or (415) 967-1187	CMS Enhancements 1372 Valencia Ave. Tustin, CA 92680 (714) 259-9555	Crate Technology 6850 Vineland Ave., Bldg. M North Hollywood, CA 91605 (800) 543-5808 or (818) 766-4001	EMAC Division of Everex 48431 Millmont Drive Fremont, CA 94538 (800) 821-0806, ext. 2222, or (415) 683-2222	Microtech International 158 Commerce St. East Haven, CT 06512 (800) 325-1895 or (203) 468-6223	Relax Technology 3101 Whipple Road, #22 Union City, CA 94587 (800) 848-1313 or (415) 471-6112	Ruby Systems 188 S. Whisman Road Mountain View, CA 94041 (800) 888-1668 or (415) 967-1187



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Macworld, May 1989

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Macworld, May 1989.



La Cie offers you mass storage solutions from 42 to 1038 megabytes. Except for the 613 and 1038, all drives weigh under 4-1/2 pounds and measure less than 3"x6"x9". These compact units don't clutter up your desk-top and do fit into our **FREE** shoulder-strapped Cordura™ carrying case or inside your brief-case for easy portability.

Capacity (Mb)	Speed (ms)	Price (\$)
<del>20</del> 42 68	25	<b>599</b>
137	23	<b>1,199</b>
182	23	<b>1,399</b>
42	15	<b>659</b>
84	15	<b>959</b>
105	15	<b>1,059</b>
613	15	<b>3,099</b>

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**CT-600H cassette — left stack (top to bottom): MaynStream 60, Magic-Tape 60; center stack: EMAC 60T, Crate TapeCrate 60, Microtech T60; right stack: Relax Tape 60 Plus, MicroNet MT-60, Ruby StarDrive 60TX, CMS MacStack Tape 60**

software, look into buying a third-party software package (see "Labs Brief: Tape-Backup Software"). Although these commercial applications generally work with all types of drives, most of the bundled software is specific to a single manufacturer's drive.

All the software can perform file-by-file backups, which means individual files are stored on tape as separate entities, thus giving you the option of backing up and restoring the entire disk or just a selection of files. If you back up daily, you'll want to perform incremental backups, copying only those files that have changed or been created since the last backup.

The opposite of a file-by-file backup is an image backup, which blindly copies the binary 1s and 0s to tape, exactly as they appear on the hard disk. Because it has no file-maintenance overhead, this method can be faster than a file-by-file backup, but we don't recommend it, for several reasons. For one, you can't selectively back up and restore individual files; you must rewrite the entire hard disk. Another problem occurs when a disk sector goes bad between the time of your last backup and the attempted restore. An image restore does not recognize the sector as bad and writes over it, resulting in errors in one or more files.

There is one instance in which an image

backup may be helpful: after-the-fact backup of a crashed hard disk that has a damaged directory. An image backup is the only kind of backup you can do under these circumstances, since file-by-file software can't find any files without the aid of a directory. You should take the precaution of doing an image backup before using disk-recovery software, so that if you accidentally do some more damage, you can restore the disk to the condition it was in before you fiddled with it.

An important feature is the ability to schedule a backup with the drive on automatic pilot so that you needn't be around when it happens. Most of the software packages allow scheduled backups, the exceptions being Apple's Tape Backup 40SC, Nuvo Labs' FastTape (bundled with 13 different drives), RACET's File By File, and Maynard's MaynStream applications.

If it doesn't have a scheduling feature, the software should work in the background under MultiFinder so that you aren't forced to abandon your Mac while the drive is backing up your precious data. Background backups can take quite a bit longer than foreground ones, and they often slow down foreground response time greatly. However, we found that Tecmar's QTBackup software slows

**Table 4: Features of Tape-Backup Software**

	D-K Research 2.78	EzTape 1.10	Fastback II 2.00*	FastTape 3.2X*	File By File 1.06	MaynStream 1.0
List price	bundled only	bundled only	\$189	\$129; bundled w/ 13 drives	bundled only	bundled only
File-by-file backup/restore	✓	✓	✓	✓	✓	✓
Incremental backup	✓	✓	✓	✓	✓	✓
Image backup/restore	✓	✓		✓		
Scheduling	✓	✓	✓			
Background operation	✓	✓	✓			✓
AppleShare privilege retention	✓	✓				✓
File-selection sets	✓	✓	✓	✓		✓
PC compatibility		✓				✓
Password protection		✓		✓		✓
Data encryption			✓			
Data compression			✓			
Catalog location	tape and disk	tape	tape and disk	tape	tape	tape and disk

\*The features of this third-party software are covered in more detail in "Labs Brief: Tape-Backup Software," also in this issue.

†Only with Tecmar QT-Mac150.

‡Only on image backups.



down only marginally under MultiFinder because of its asynchronous-SCSI driver.

## Face the Interface

As with all Mac programs, the way the features are presented determines if a backup program will be a help or a hindrance. Options should be clearly labeled for easy learning and should require only a few steps to complete. Tecmar's QTBackup software has one of the cleanest, easiest-to-use interfaces around. FastTape also provides a very intuitive interface, but it doesn't have a lot of features. Because it is so powerful, Retrospect (bundled with four of the drives) is not easy to learn.

Most backup software uses one of two basic methods to display a hard disk's contents for a file-by-file backup. The first method displays a screen similar to the standard file-selection dialog box found in most Mac applications. A list of files and folders is presented in a scrollable field, with the drive name in a title bar. Double-clicking on a folder name reveals its contents, and selecting the title bar gives you a list of nested folders. The FastTape software common to many of the CT-600 drives makes good use of this technique, as do the software packages from Apple, D-K Research, and Tecmar.

The other predominant presentation

**CT-600N cassette**  
(clockwise from top right):  
**Ruby StarDrive 150TX,**  
**Crate TapeCrate 155, CMS**  
**MacStack Tape 150, Relax**  
**Tape 150 Plus, Microtech**  
**T150, EMAC Impact Tape**

PHOTOGRAPHY: FRED STAMSON



method is a hierarchical-tree structure, which displays files in a list with nested folders and their contents indented to the right. The tree structure requires fewer mouse clicks because you can access the name of every file on the hard disk without having to delve into nested folders. Retrospect, File By File, and QuTape all offer hierarchical trees.

EzTape and MaynStream take a quite different approach. They simulate the Finder by displaying folders and files as they appear in the icon view on the desktop. To select files, click open a folder and highlight the files you want to back up. This method is more cumbersome than using a tree structure if you need to

select files in different folders, because it leaves you with lots of open folders. However, some users may enjoy the similarity to the Finder.

## Network News

Most Mac network administrators would love to effortlessly back up all the nodes on a network from one Mac, rather than trundling a tape drive from node to node or requiring users to publish their files (under TOPS) or to copy their data to a server (under AppleShare). Although you can back up network nodes from a single Mac, using a Video-8 drive and PCPC's NetStream software, this kind of software isn't currently available for the drives reviewed in this report. Besides, the relatively small capacities of these drives make this impractical.

Simply backing up a file server is more practical for the current crop of tape drives, although their capacities (40 to 250 megabytes) may be too small for many file servers. A single backup spanning multiple tapes is possible with all the software, but this precludes unattended backups (since someone must be present to change the tapes).

If you are using an AppleShare or AFP-compliant (AppleTalk Filing Protocol-compliant) server, you definitely want a backup program that retains access privileges and passwords for all network users. If you just back up the files sans privileges, you'll be forced to rebuild the server's desktop manually whenever it crashes — a task not to be taken lightly. EzTape, D-K Research, MaynStream, QTBackup, and Retrospect offer this useful feature.

## Compatibility

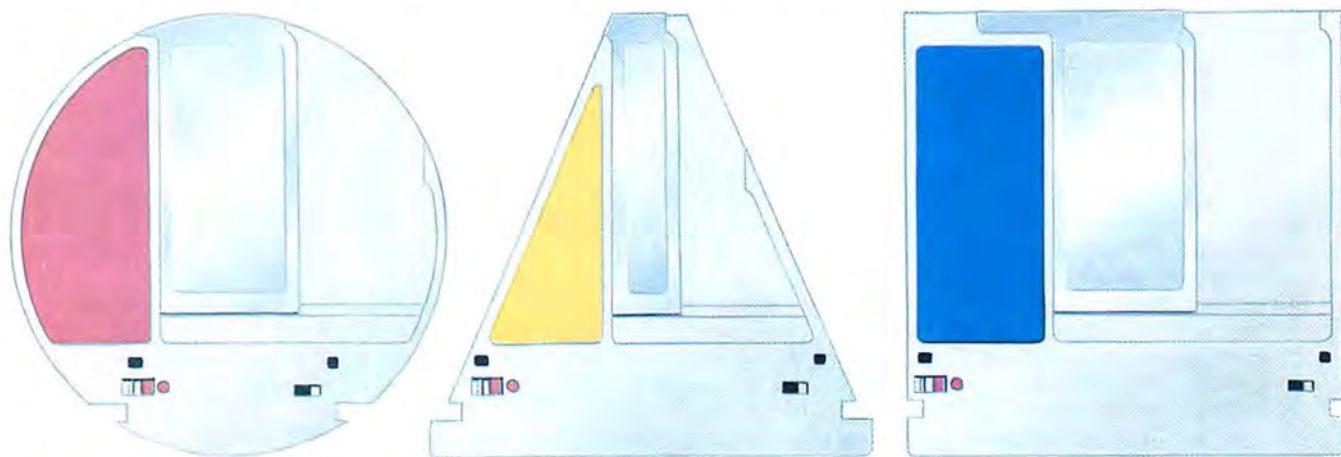
Even if you don't plan to swap tapes with friends or coworkers, compatibility

QTBackup 2.01	QuTape 1.59	Retrospect 1.0*	Tape Backup 40SC 2.0.1
bundled only	bundled only	\$249; bundled with 4 drives	bundled only
✓	✓	✓	✓
✓	✓	✓	✓
✓			✓
✓	✓	✓	
✓	✓	✓	
✓	✓	✓	
✓	✓	✓	
✓†			
		✓	
		✓	
✓‡		✓	
tape	tape	tape and disk	tape

QTBackup 2.01	QuTape 1.59	Retrospect 1.0*	Tape Backup 40SC 2.0.1
bundled only	bundled only	\$249; bundled with 4 drives	bundled only
✓	✓	✓	✓
✓	✓	✓	✓
✓			✓
✓	✓	✓	
✓	✓	✓	
✓	✓	✓	
✓	✓	✓	
✓†			
		✓	
		✓	
✓‡		✓	
tape	tape	tape and disk	tape



# Do You Have The Standard...



## The Infinity Optical Disk

You may not know that there are ISO and ANSI standards for optical storage. These compatibility standards are essential for data interchangeability between second source vendors.

But some companies have jumped on the "optical bandwagon" with no knowledge of removable technology and have come out with non-standard devices.

Putting a non-standard optical disk into another drive is like fitting a square peg in a round hole.

Luckily, there is one peripheral company that has been making removable drives since 1985... PLI. And now the removable experts at PLI have introduced the Infinity Optical according to ISO and ANSI standards.

The Infinity Optical combines unlimited storage capacity and Sony reliability with optical re-writability and the convenience of removability.

"Memory hungry," large scale applications are no problem with a 650 MB or 1.3 Gigabyte drive. And four FREE utilities, TurboCache, Turbo Back, TurboOptimizer and TurboSpool, give you the fastest optical drive available. Included are A.M.E., an integrated security application and DOS Transfer, a utility which converts IBM files to Mac readable files.

Interface kits are available for the Macintosh, A/UX, IBM-XT, AT, PS/2, and compatibles.

Sony, IBM, XT/AT/PS/2 and A.M.E. are trademarks of their respective companies.



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among tape drives is very important. You don't want to be stuck with unreadable data if your tape drive croaks. In order to move tape among drives, each drive must use equivalent mechanisms and the software used to read the tape must understand the format in which the data was written.

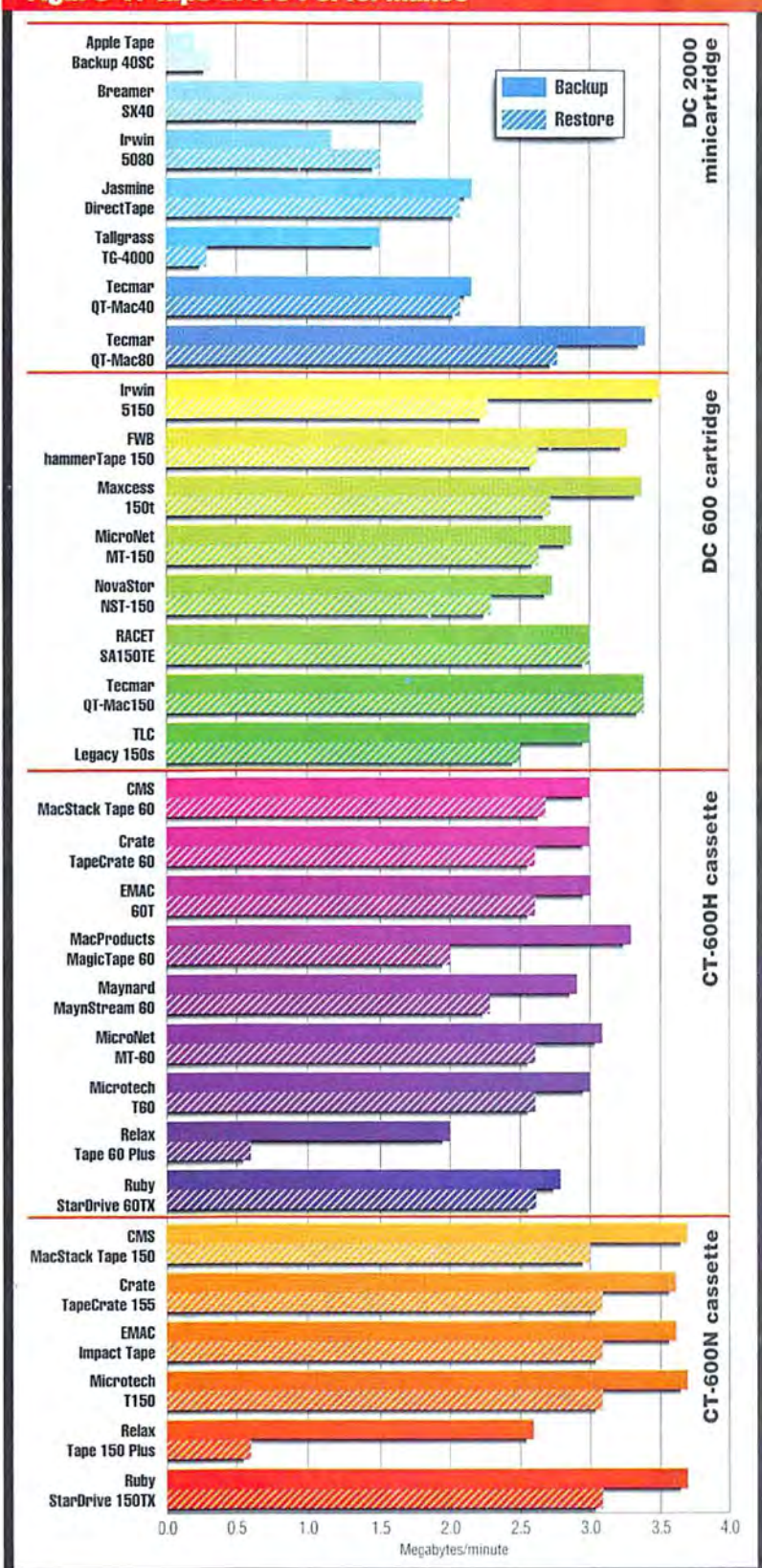
Because all the CT-600 cassette mechanisms are built by TEAC and most of the drive vendors bundle FastTape with their products, there is a high degree of backward compatibility among these units. Providing they use the same software, all the CT-600H drives are fully compatible with each other. The CT-600N cassette drives (those with the TEAC N50 mechanism) can read, but not write to, tapes made with both the TEAC 45S and the 45S2 mechanisms.

On the cartridge side, compatibility is more of a problem. There are many different mechanisms, and OEMs have taken some liberties in adopting the standards developed by the tape industry's QIC (Quarter-Inch Cartridge) Committee. Apple's Tape Backup 40SC drive adheres to the QIC-100 standard, and most of the other DC 2000 drive manufacturers claim compatibility with Apple's product, since it owns the largest slice of the backup market. The Irwin 5080 and the Tallgrass TG-4000 can't exchange tapes with Apple drives.

In the DC 600 arena, all the drives except the Tecmar QT-Mac150 adhere to the QIC-150 standard. Since these drives share a common standard, if you make sure you stick with one software package, you'll be able to swap tapes among drives from different manufacturers. The Irwin 5150 uses its own proprietary formatting and is not compatible with the other DC 600 drives.

**We tested backup and restore speeds by using the bundled software of each drive on a stock 2-megabyte Mac II. In general, the CT-600N cassette drives proved fastest, the DC 2000 minicartridge drives were slowest, and the others were pretty much in the middle. Performance that is noticeably good (MacProducts MagicTape 60's, for example) or bad (Relax Tape 150 Plus') within any drive class was usually caused by the software, not the hardware.**

**Figure 1: Tape-Drive Performance**







## Disposable

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The Tecmar QT-Mac150 is a twofold anomaly. First of all, it's the only DC 600 cartridge drive that doesn't adhere to the QIC-150 standard (it follows QIC-36). More importantly, it is the only non-SCSI drive we reviewed. Instead of plugging into the SCSI port, it plugs into a supplied NuBus interface card and thus can't be used on a Mac Plus or SE. It can, however, attach to a PC, provided you purchase the necessary interface from Tecmar — but this is a costly route to DOS compatibility.

Compatibility between PCs and Macs is important if you are going to use tape to transfer large files between the two machines. Compatibility can be achieved only if you have similar drives (preferably from the same manufacturer) on each platform and the software for each recognizes the format of the other. Irwin, Maynard, and Tecmar are the only vendors that currently offer the necessary hardware and software for both the Mac and PC.

### Summing Up

At this time, no one class of tape drives is the clear winner, though there are some noteworthy trends. On average, the CT-600H cassette drives are the least expensive, but the CT-600N drives offer greater capacity and more speed. The DC 2000 minicartridge drives are much slower and somewhat pricey, given their capacity, but they use rugged media and are compatible with Apple's Tape Backup 40SC drive. The DC 600 cartridge drives, though costliest of all, offer the greatest capacity

## The Bottom Line

As you might expect when looking at a field of 30 contenders, there is no one ideal tape-backup system. Determining the best drive for you depends on which features you consider most important.

The \$1,795 Tecmar QT-Mac80 is our favorite drive overall. With an average backup rate of 3.4 megabytes per minute, it was one of the fastest drives we tested. The QT-Mac80 can also squeeze up to 128 megabytes onto extended-length DC 2000 minicartridges, and it is backward-compatible with Apple's DC 2000 offering. The bundled QTBackup software is top-notch — elegant, full-featured, and easy to use. (If you like the software but balk at the price, QTBackup is also available on two other DC 2000 drives: the \$1,395 Tecmar QT-Mac40 and the \$999 Jasmine DirectTape.)

Is price your main consideration? Then check out the \$695 MacProducts Magic-Tape 60. In our tests, this 60-megabyte CT-600H cassette drive was the fastest in its class — almost as fast as the QT-Mac80 — thanks to its late-model TEAC 45S2 mechanism and the efficiency of its bundled Retrospect software. The zero-footprint case (which fits underneath a Macintosh Plus or SE) has three switched AC outlets on the back and a lighted control panel on the

front, which is very handy.

If speed is your primary concern, you may want to look at the CT-600N cassette drives, which edged out the other drive classes we tested, with an average backup performance of 3.6 megabytes per minute. They also boast a storage capacity of 155 megabytes. Since all the CT-600N drives use the same TEAC N50 mechanism, shop for price and software.

Among the DC 600 cartridge drives, the FWB hammerTape150 (\$1,895) and the Maxcess 150t (\$1,795) edged out their competition. Both had a backup performance of around 3.4 megabytes per minute, have zero footprints, and come bundled with Retrospect. Maxcess also offers a two-year warranty (as do several other drive manufacturers).

The Apple Tape Backup 40SC (\$1,579) currently owns the largest slice of the Mac tape-drive pie — a distinction based on marketing muscle, certainly not on merit. It's expensive for a DC 2000 minicartridge drive and ranked dead last in speed. Its feeble backup rate was only .2 megabytes per minute. The software is plain vanilla, but even with formidable third-party software such as FastTape or Retrospect, this lemon was the slowest of all tested drives.

at the most economical price per megabyte.

Of course, there are individual exceptions to these sweeping generalizations. For our impressions of each drive, see the

comments in Table 3 and the "Bottom Line" sidebar. ☐

**John Rizzo is the technical editor of MacUser.**



## On the Horizon

Several new techniques for increasing the speed and storage capacity of tape backup are on the horizon. As of this writing, the tape industry's QIC (Quarter-Inch Cartridge) Committee was finalizing a scheme to squeeze up to twice as much data onto DC 2000 minicartridges and DC 600 cartridges. Once this compression scheme is ratified, expect to see it implemented first in software updates for existing drives and soon thereafter built in to firmware for faster performance.

On another front, a new highly sensitive magnetic medium called 900-oersted tape (named for a unit of magnetic force), along with redesigned cartridges and drives, will allow significantly higher data densities

and transfer rates. The QIC Committee is proposing DC 2000 formats of 210 and 380 megabytes and a DC 600 format of 525 megabytes. The 900-oersted drives may perform 10 to 20 times faster than current drives that use cartridges of the same size.

These improvements are likely to push the SCSI bus on even the speediest Mac to its data-transfer limit. To eliminate this bottleneck, SCSI needs an overhaul. Enter SCSI-2, a proposed new standard that is likely to be ratified by an ANSI (American National Standards Institute) subcommittee sometime in 1990. Two features — "wide SCSI" and "fast SCSI" — will quadruple the amount of data that can pass over the SCSI bus at any given moment and double the transfer rate of this

"wider" path. There is a catch, however: Wide SCSI requires additional data lines and a hefty, high-quality cable to allow the full increase in data transfer. Expect third-party manufacturers to offer SCSI-2 NuBus cards for existing machines before Apple introduces a new Mac with SCSI-2 built in.

Beyond cassettes and cartridges is a new class of tape called helical scan, which offers faster throughput and a storage capacity in the multigigabyte range. This tape comes in two widths: 8 millimeter, also called Video-8, and 4 millimeter, commonly referred to as digital audiotape (DAT) because it's the same tape that is used in the new high-fidelity audio decks.

— Rik Myslewski



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The backup software that comes bundled with many tape drives is like the factory-installed stereo in a new car. It's probably adequate for "the rest of them," but if you're a serious audiophile, the first thing you do is rip it out and buy something that really cranks. Such is the case with some software that comes bundled with tape drives — you're better off tossing it and shopping around for a replacement.

A few of the applications bundled with the 30 tape drives we reviewed this month

**By Tim Tully and the MacUser Labs staff**

**The performance of even the best tape drive can be ruined by bad software. Send one of these commercial backup packages to the rescue.**

(see "Getting It on Tape" in this issue) are Spartan programs that get the job done but don't offer much in the way of features. MacUser Labs evaluated three recently released third-party alternatives: Fastback II (\$189) from Fifth Generation Systems, FastTape (\$129) from Nuvo Labs, and Retrospect (\$249) from Dantz Development. These programs offer increased performance and fancy bells and whistles that can turn virtually any tape

drive into a genuine life-and time-saver.

#### Product Positioning

Where the three programs differ significantly is in their positioning. Bundled with 13 of the drives we evaluated, FastTape is strictly for tape-based backups (DC 2000 minicartridges, DC 600 cartridges, and CT-600 cassettes); Fastback II and Retrospect also work with floppies, hard disks, removable cartridges, and optical media. (For an in-depth evaluation of Fastback II's nontape capabilities, see StartUp, October '89.)

Fastback II is the second generation of a product originally designed as a floppy-based backup program. It is not bundled with any of the drives we tested. Retrospect differs from the other packages in its focus on archiving — the permanent storage of files and concomitant erasure of data from the source volume. Retrospect can archive automatically, but when you ask it to, it's perfectly able to back off onto the less demanding ground of mere backup. Retrospect is bundled with four of the tape drives reviewed this month.

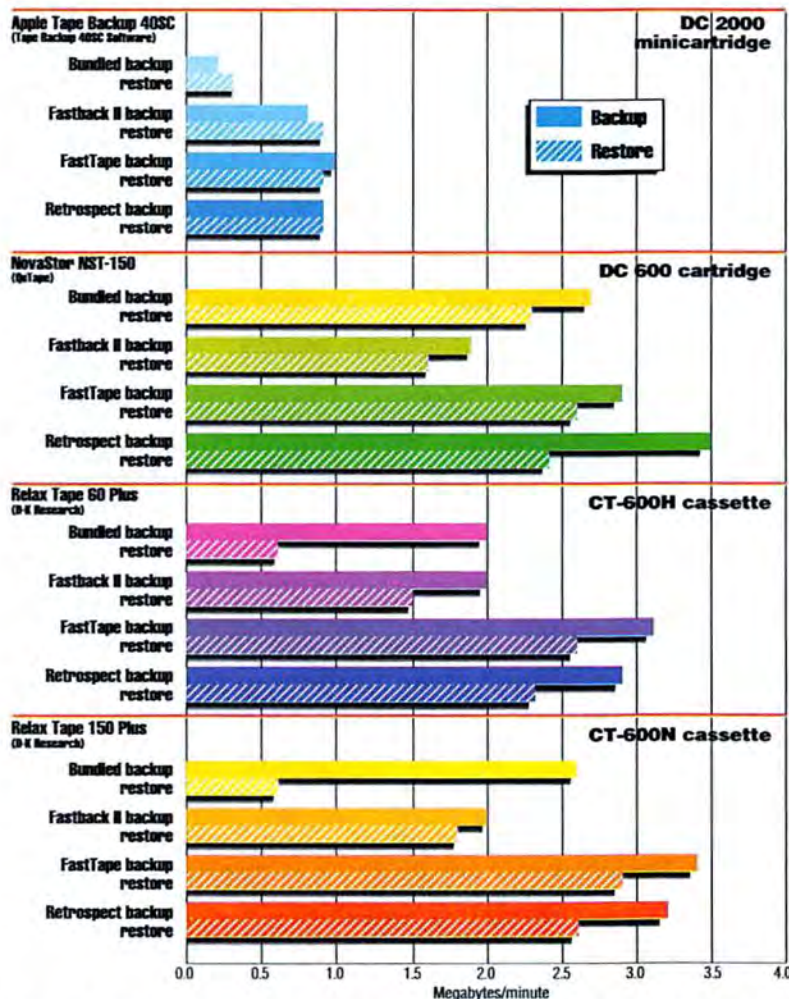
#### Performance Anxiety

To prove that software is often to blame for poor hardware performance, we compared the backup and restore speeds of these third-party applications with those of programs bundled with the slowest drives in each of the four drive categories. For best results, all the publishers recommend allocating as much memory as possible to the backup

**MacUSER  
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BRIEF:**

# Tape-Backup Software

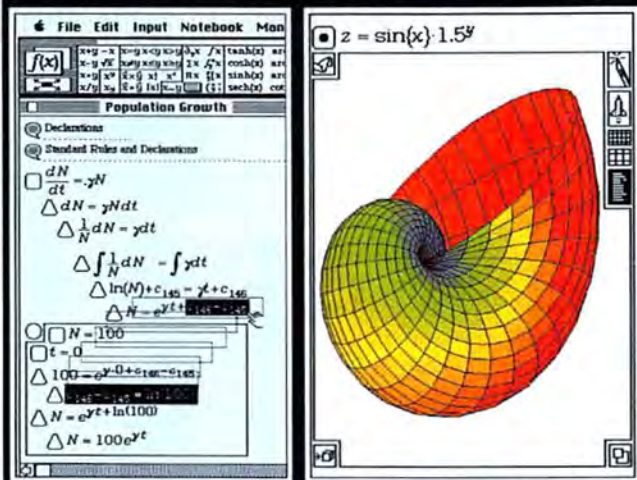
**Figure 1: Performance**



The more megabytes per minute your equipment can handle, the less time and effort a backup requires. We compared the performance of the third-party backup packages with that of the programs bundled with the slowest drives in each of the four drive categories.



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programs (we used a 2-megabyte Macintosh II with a 32K RAM cache) and not running them in the background under MultiFinder.

As the test results clearly demonstrate (see Figure 1), Fastback II actually performed worse than the slowest bundled applications in some cases, contradicting the publisher's claim that it's the "world's fastest . . . backup software." FastTape and Retrospect, on the other hand, consistently beat the bundled programs in every category, sometimes by as much as an additional megabyte per minute.

Don't expect these programs to provide similar performance increases across the board, however. If you compare their results with those of the top performers in each drive category (see "Getting It on Tape"), you'll realize that the third-party programs are only marginally faster at best. Their real advantage is not speed but sophisticated features.

These programs do what most of us have always wanted backup programs to do: perform file-by-file or image backups of a hard disk or file server and document the process in a way that allows for quick incremental backups and selective file restoration. Of the three, FastTape is the most basic, while Retrospect and Fastback II have taken the features-and-options bull by the horns.

### Display Window

FastTape uses a standard but effective dialog box (see Figure 2), with buttons for selecting files for backup or restore. Both Fastback II and Retrospect display source files and folders hierarchically in scrollable windows (see Figures 3 and 4). In Fastback II's Choose Backup Files window, you can include or exclude all files or individual selections by clicking on buttons; the selection status of files is indicated by icons' changing color.

Retrospect's Browser, on the other hand, contains an overview window that not only indicates the files that have been selected but also lets you move quickly and accurately through the catalog by clicking on and/or dragging a highlight bar. Visual cues such as highlighting, check marks, and bullets show the status of files at a glance, and the default Browser displays the size and creator of each file. There are six alternative layouts that display additional file information such as icons, creation and modification dates, and privileges. Of the three program displays, Retrospect's display is the most

navigable, easiest to read, and by far the most informative.

### Automatic File Selection

Manually selecting individual files in a point-and-click fashion is not the only option available in these programs. FastTape's Changed Since button lets you choose files that have been created or changed since a particular date. If you consistently need to back up a particular set of files, the SuperScript feature eliminates the need to choose the files individually each time you run the program. Simply save the related files as a SuperScript. Next time you want to select those files, load the appropriate SuperScript instead of popping in and out of nested folders to click on each file individually.

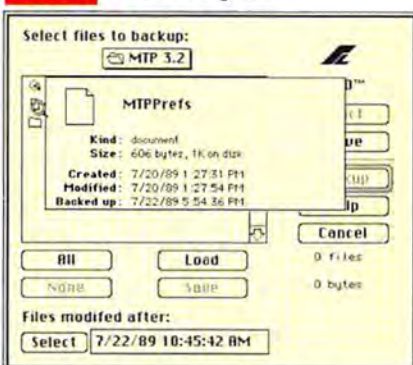
Fastback II and Retrospect have similar features to aid incremental backups and are equipped with a much more elaborate set of selectable parameters for choosing the files and folders you want to include in backup or restore operations. You can include or exclude files and folders by name, creation or modification date, file type, and creator. Retrospect also lets you choose by file size and icon color. These options may be a little daunting to someone looking for a modicum of data security, file management, and time-saving features. However, both programs' defaults are altogether functional and let you do backups and restores without referring to the documentation too often. Still, the more esoteric features are there for power users or network administrators who need microscopic selectivity and multiple selection formats.

Fastback II and Retrospect also provide sophisticated methods for letting you customize their capabilities. After configuring Fastback II to your liking, you can create Setup Files that retain these preferences. Similarly, Retrospect lets you create scripts that include selections and configurations, and after marking a set of items in the Browser for processing, you can make that configuration a "custom selector" that can be used again. For example, you could request backups only for text files containing the word *budget* in their filename or for files that have remained unchanged for a specific period.

### Staying on Schedule

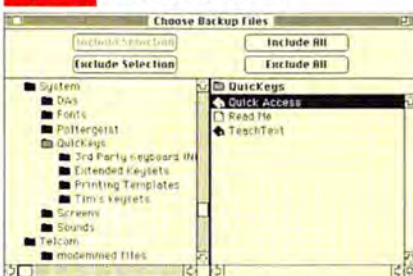
Fastback II and Retrospect have scheduling features that can execute specific operations at any selected interval —

**Figure 2: FastTape**



FastTape uses a standard file-selection dialog box and has a magnifying glass that lets you display pertinent information for choosing files and folders for backup.

**Figure 3: Fastback II**



The left half of Fastback II's Choose Backup Files window shows files and folders hierarchically, and the right side shows the contents of folders. You can select items in either list by clicking on icons and one of four buttons for including or excluding files.

**Figure 4: Retrospect**



Retrospect's Browser includes an overview window (at left) and a more detailed hierarchical display (on the right), where files are selected based on user-definable criteria. Check marks indicate files to be backed up, and diamonds show files that have been changed or created since the last backup.



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	Forecast	\$6,453	\$8,800	\$10,050	\$9,460	\$12,000	\$18,900
	Variance	\$1,947	\$3,500	\$3,850	(\$760)	\$1,000	\$2,400
	%	130%	140%	138%	92%	108%	113%
<b>Cost of Goods Sold</b>	Actual	\$1,848	\$3,198	\$3,475	\$2,262	\$2,860	\$7,663
	Forecast	\$1,549	\$2,288	\$2,312	\$1,608	\$2,640	\$3,969
	Variance	\$299	\$910	\$1,164	\$654	\$220	(\$3,969)
	%	119%	140%	150%	141%	108%	0%
<b>Gross Profit</b>		<b>\$6,552</b>	<b>\$9,102</b>	<b>\$10,425</b>	<b>\$6,438</b>	<b>\$10,140</b>	<b>\$21,300</b>

### WxC 1000

		JUL	AUG	SEP	OCT	NOV	DEC
<b>Revenue</b> (In Thousands)	Actual	\$2,184	\$3,198	\$3,892	\$2,610	\$4,030	\$5,325
	Forecast	\$1,613	\$2,200	\$2,513	\$2,365	\$3,000	\$4,725
	Variance	\$571	\$998	\$1,380	\$245	\$1,030	\$600
	%	135%	145%	155%	110%	134%	118%



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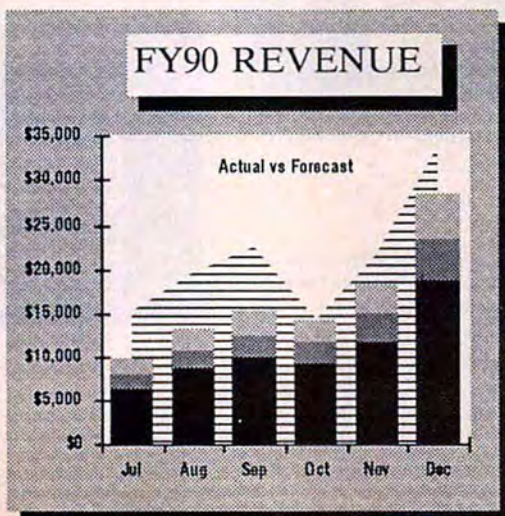
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Forecast	\$6,453	\$8,800	\$10,050
Variance	\$1,947	\$3,500	\$3,850
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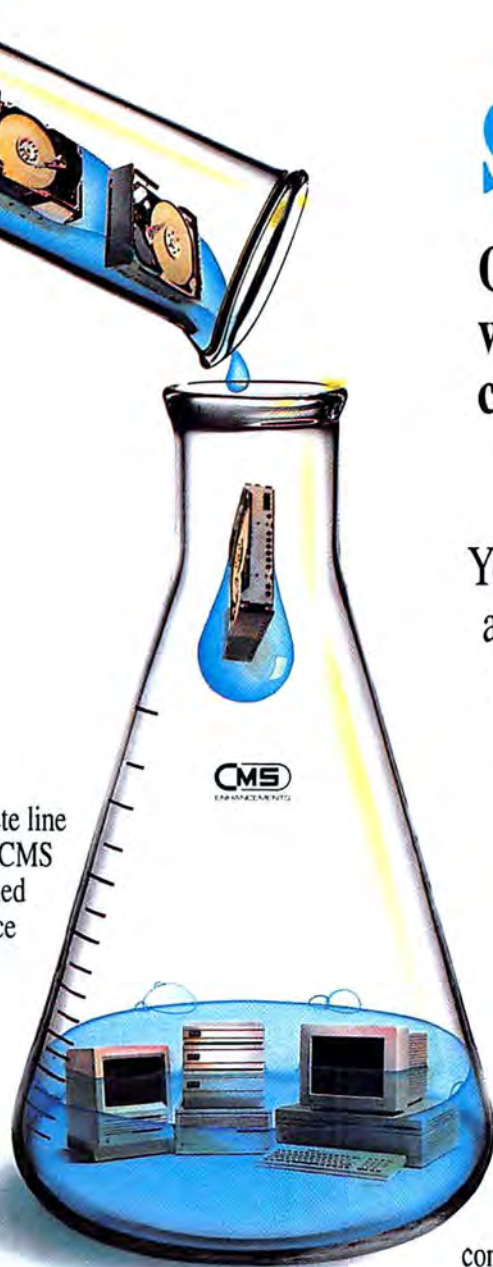
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If unattended scheduled backups are a must for you, forget about FastTape. It relies on your diligence to perform backups regularly and requires your presence at backup time. It does have an option to shut down the computer upon completion of a backup, however, so although you must be there at the initiation of a backup, you needn't stick around.

### Bad Backgrounding

One of the annoying things about making a backup could be alleviated if you could set the process in motion and then continue with your work in the foreground under MultiFinder. Unfortunately, none of these programs runs very effectively under MultiFinder.

FastTape runs in the foreground only. Even so, the manual discourages you from using MultiFinder because it is so slow and may prevent active files from being backed up properly.

Fastback II can run in the background, prompting you to change media when



## The Bottom Line

Any of the three programs we examined can perform the rudimentary backup and restore operations required by the majority of hard-drive users. However, these backup programs are not created equal.

**Retrospect** alone is capable of retaining AppleShare access privileges, so of the three, it's the only real choice for network administrators looking to back up servers. And if your needs include archiving, as opposed to backup capabilities only, Retrospect is the way to go. It's a little complicated in some respects, but it offers powerful features such as scheduled backups, data compression, data encryption, and complex file-selection criteria.

Although it doesn't have all the sophisticated features or speed of Retrospect, **Fastback II** is less expensive, and for smaller, non-network operations, it allows for flexible and secure backups. If you are partial to floppies, check it out. **FastTape's** speed, simplicity, and low price make it attractive for individuals who have only the most basic tape-backup and -restore requirements. It has a rudimentary interface and inflexible file-selection criteria, is limited to tape backup, and lacks a scheduling feature.

necessary. Be forewarned, however: This way of operating seriously degrades the performance of both Fastback II and the foreground application. Even programs that don't demand much CPU attention, such as Microsoft Word, slow to a crawl.

Retrospect's performance also suffers if you run it in the background. To ameliorate this situation, the program includes an option that pauses it when it's in the MultiFinder background. You can then access other applications without completely shutting down a backup in process — a plus for Retrospect.

### Networking


At present, none of the three programs is capable of reaching out from one workstation and backing up the information residing on the hard drives of other workstations. True network backup is beyond their capabilities. They can back up any volume that appears on the desktop, however, so they can all back up a file server. Keep in mind that you can back up only those files to which you have access. There's more to performing a good server backup than copying files to another volume, though. Most important is the ability to retain access privileges and passwords for all network users.

Of the trio examined here, Retrospect is the only program that tackles networks head on. With it you can back up an AppleShare-compatible file server or TOPS volume from any workstation without shutting down the server. Retrospect is the only package that retains all access privileges with files. That way, if the server volume is damaged, you won't be forced to rebuild its desktop manually, a tedious chore indeed.

### Security Blanket

All three programs write a catalog onto the backup medium so that data can be restored easily in the event of a disk crash. Fastback II also writes a duplicate to any other mounted volume of your choice, and Retrospect keeps a catalog on the backup source. Having the catalog on the hard disk allows you to search the contents of the backup sessions quickly, without requiring the backup media to be on-line. And by placing duplicate catalogs of your backup sessions on two different volumes, even if your hard disk goes south, you'll still be able to re-create the disk from the alternative catalog.

With FastTape, access to backup data can be restricted with an optional password. Retrospect has password protection too, and it even goes the extra step of offering the option of a fast but simple encryption or the more stringent DES (data-encryption standard) required by some government agencies. Fastback II has no similar features to protect your sensitive data from prying eyes.

Two nice features of Fastback II and Retrospect are their abilities to verify and/or compress data on the fly during a backup. Both of these options degrade performance, but verification may make you sleep easier and compression can greatly increase the storage capacity of the media, depending on the type of data being backed up. FastTape does not have a verification option but instead relies on the error-correction code in the tape hardware itself. 

**Tim Tully produces commercial music and provides editorial services to high-tech companies in the San Francisco Bay Area.**

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Fifth Generation Systems  
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Baton Rouge, LA 70809  
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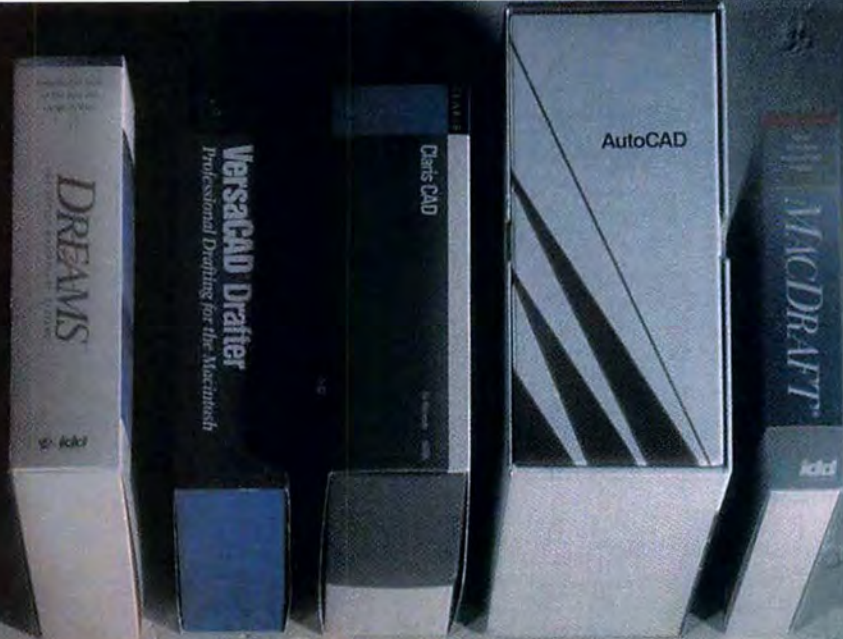
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# POWER TOOLS

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KRISTI COALE

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## Extend Your Wingz

Add a full menu of goodies with Wingz's simple HyperScript language.

**W**ingz, the Mac's newest spreadsheet program, features the powerful HyperScript programming language, which lets you easily create custom features and menus.

Although Wingz lacks many of the niceties that Excel users take for granted, in most cases a missing feature can be provided by a short script. You can even arrange for menu access to new commands.

You don't have to be a programmer to use

the following scripts. To enter a script into Wingz, select New Script from the Script menu; type the text of the script; and then save it, using whatever name you like. To run the script, select Run Script from the Script menu and open the file containing your script. If you create a script named Startup and put it into the same folder as Wingz, it will be executed automatically each time Wingz is launched.

**By James Finn**

### 1 Improved date formats.

Wingz's five date formats all use hyphens, but you may prefer Excel's compact m/d/yy format. This script replaces the fourth date format (mm-dd-yy) with m/d/yy. The fourth format was chosen for modification because Wingz uses it by default for entering a date into a cell, but you can change the script to substitute this new format for any of the five Wingz formats:

```
select menubar "main"
select menu "format number"
select menuitem "MM-DD-YY"
rename menuitem to "M/D/YY"
date 4 "m/d/yy"
```

The new date format is not stored with spreadsheets — to use it, the script must be executed each time you start the Wingz program, making it a good candidate for placement in your Startup script (see item 5).

### 2 Restoring row height and column width.

Wingz lets you adjust the height of rows, but this ability is a mixed blessing. Rows are narrow, and it's easy to accidentally change the height of a row when all you actually meant to do was select it. Once it's been changed, there is no simple way to restore a row to its original height. This script does exactly that — all selected rows are reset to their default height:

```
row height 240
```

The 240 measurement is in TWIPs, Wingz's standard unit of measure. One TWIP is 1/20 point, so 240 is 12 points, the standard row height.

A similar script restores default column widths:

```
column width 1480
```

### 3 Setting row height and column width.

This script allows you to set the height of all selected rows by simply entering the desired height, in points, into a dialog box:

```
row height value(dg:dgask
("Enter height in points",
round(rowheight() / 20,
0), 5)) * 20
```

The dialog box initially displays the height of the first row in the selection. The dg:dgask function, which ships with Wingz, displays a dialog box with a message and a text field in which the user can enter a response.

It takes three arguments: the message string, the initial value to display in the response field, and that field's desired size in characters. The multiplication and division by 20 handle the conversion of values between points and TWIPs.

A similar script lets you set the width of all selected columns:

```
column width value(dg:dgask
("Enter width in points",
round(columnwidth() / 20,
0), 5)) * 20
```

### 4 Time made simple.

Wingz is not smart when it comes to accepting time values. For instance, if you enter 10:35 or 12:30pm into a cell, Wingz does not understand that you are entering a time — it interprets the entry as ordinary text.

This script converts the text in the active cell to a genuine time value and then formats the cell to use the HR:MN AM format:

```
put timevalue(cell()) into
range(makecell(col(), row()))
format time 2
```

### 5 Putting it all together.

Figure 1 shows a Startup script that combines all the previous scripts and includes an additional script for selecting the last cell in a spreadsheet. Directly out of the box, Wingz won't let you select the last cell — this script defines the last cell.

The Startup script provides the new date format and then creates a Goodies menu that has an entry for every one of the remaining commands. Be especially careful to type the script exactly as it is shown here: Quotation marks in the scripts appear doubled when they are embedded as menu commands in the Startup script.

Name this script Startup and put it into the same folder as Wingz; that way, you'll get the Goodies menu automatically each time you launch Wingz.



## Figure 1: Hatching a New Menu

### ■ { MacUser Power Tools Wingz Startup script }

{ by James Finn }

### ■ { set 4th date format (the default date format) to m/d/yy }

```
select menubar "main"
select menu "format number"
select menuitem "MM-DD-YY"
rename menuitem to "M/D/YY"
date 4 "m/d/yy"
```

### ■ { create Goodies Menu }

```
add menu "Goodies" with 6 items
```

### ■ { restore selected rows to default height }

```
add menuitem "Fix Row Height" command "row height 240"
```

### ■ { set row height in points }

```
add menuitem "Set Row Height..." command
"row height value(dg:dgask("Enter height in points",
round(rowheight() / 20, 0), 5)) * 20"
```

### ■ { restore selected columns to default width }

```
add menuitem "Fix Column Width" command "column width 1480"
```

### ■ { set column width in points }

```
add menuitem "Set Column Width..." command
"column width value(dg:dgask("Enter width in points",
round(columnwidth() / 20, 0), 5)) * 20"
```

### ■ { convert current cell's text representing time to time value }

```
add menuitem "Fix Time" command
"put timevalue(cell()) into range(makecell(col(), row()))
format time 2"
```

### ■ { select last cell in spreadsheet }

```
add menuitem "Select Last Cell" command
"define sel, lastrow, lastcol
repaint off
select Active Cells
sel = selection(1)
lastrow = rowof(sel) + rows(sel) - 1
lastcol = colof(sel) + cols(sel) - 1
select range range(makecell(lastcol, lastrow))
repaint on
repaint window"
```

Figures 1 and 2: The Startup script (Figure 1) creates an m/d/yy format for dates in the Format Number submenu. It also creates a Goodies menu with commands for restoring the height of selected rows or the width of selected columns to their default values; commands for setting row height or column width to any point value; a command for converting cell text entries such as 10:30pm into formatted numeric time values, making it easy to enter times in Wingz; and a command to select the last cell. Figure 2 shows the new menu.

## Figure 2: New Menu

### Goodies

```
Fix Row Height
Set Row Height...
Fix Column Width
Set Column Width...
Fix Time
Select Last Cell
```

### ✉ Write to

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# Slimming the System

**A**rguably the most dangerous thing you can do to your Mac without a screwdriver is to edit the System file. But if you want full control over your Mac, instead of having it control you, editing the System file is necessary — even if it's challenging. It's lucky that *MacUser* readers like challenges, because we're challenging you to put your System Folder and file on a diet.

Merely throwing out files whose functions you don't know isn't the diet you want. But paying careful attention to what's in your System Folder and what you put into it is the key to maintaining a trim System Folder. It also helps if you've had someone else watching over your shoulder. Thanks to some readers' tips, I've cleaned up my act, System Folder-wise. For instance, Marvin Carlberg, of Santa Monica, California, suggested that Disk First Aid didn't belong in my System Folder. I've now moved it to a utilities folder.

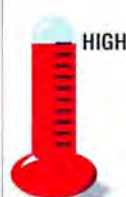
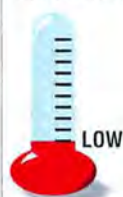
What else doesn't belong in the System Folder? Many applications, DAs, fonts, sound files, and sometimes dictionaries, filters, and help files. A rule of thumb here is to take out items such as prefs files or dictionaries if the application doesn't require their presence in the System Folder.

Sometimes the System Folder sprouts new

**By Michael Swaine**

## Paring Down the System

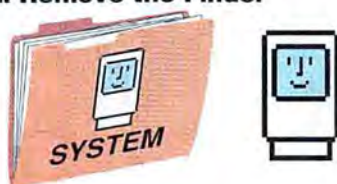
### System Risk Factor



### 1. Remove unnecessary files



### 2. Remove the Finder



### 3. Edit out resources



**Paring down the System makes the Mac more efficient, but you need to be careful as you take more extreme measures. Removing files from the System Folder is the easiest method; editing the System file is the most dangerous.**

files on its own. Word, for example, puts unbidden Word Temp files into the System Folder. These are temporary files that Word fails to clean up — you needn't keep these in the System Folder, either. Make sure you quit the application first before deleting its temp files; otherwise, your Mac may crash.

So what *does* belong in the System Folder? System files, Control Panel devices (cdevs), startup documents, and Chooser documents (PRERs and RDEVs) all belong there. Also include any utility whose documentation specifies such placement or that won't work unless you place it there (these will mostly be INITs).

Consign everything else to a utilities folder (outside the System Folder), along with any of the above file types for which you have no present need. Not sure about a file's status? Click on a questionable file's icon and type Command-I (Get Info) to bring up the file's Info box, or view the System Folder window as text to see if the file fits into any of these categories.

### The Bare Essentials

Sometimes you need to create a disk with a System Folder and an application, and you want the System on the disk to be as small as possible. For such a startup disk, you may be able to get along without a lot of the common files listed above.

Steve Ducharme, of San Jose, California, wrote about slimming down the System file itself. While his hard disk was in for repairs, Steve worked with a one-drive Mac Plus. To save himself from disk-swap wrist and to ensure that 1989

wouldn't be like 1984, Steve created several startup disks, each containing a minimum System configuration and an application. Disks, thank the Technological Imperative, hold more than they did in 1984, but the System has grown apace, necessitating a little liposuction. Starting from a disk configured with Apple's Minimum Plus installer script and using ResEdit on the System file, Steve took out unnecessary fonts and other items. His 6.0.2 System weighs in at a svelte 269K (down from the 356K of an untrimmed System).

Another way to trim the System is to manage without the Finder, as discussed in James Finn's "Losing Your Finder" (September '89). You





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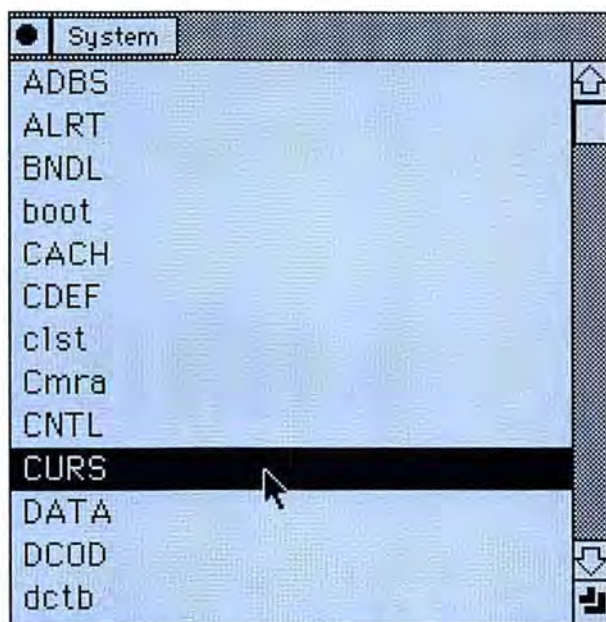
can get rid of the Finder completely on a startup disk: Eliminate all folders by placing everything on the desktop and make an application on the disk the startup file. You can do this by selecting the application's icon (or launching it if you're in MultiFinder) and selecting the Set Startup option under the Special menu. When you use this Finder-less disk, you'll see at least one Finder-related error message that you can ignore.

But if you need to construct a *really* small System, you'll need to edit the System file. In spite of the dangers of this process, I think it's the best way to learn about the structure and hidden capabilities of the System while at the same time developing skill in using a very powerful System-customization tool: ResEdit.

When you edit the System file, you're getting down to the resource level. Resources are the functional components of a file (usually of an application, although documents can also have resources), such as fonts, text strings, alert boxes, and menus. A file's resources are stored in a part of the file called the resource fork.

### Dangerous Lesions

It's dangerous to edit the System file, but it's *crazy* to edit the *active* System file — you'll get a stern warning message if you try, and you should heed the warning. Editing a *copy* of the System file is dangerous only if you make changes without knowing what you're doing and then depend on the modified System. We'll bypass most of the potential disasters by working on a startup disk created specifically for this experiment. A simple way to create the disk is to use Apple's Installer utility. After booting up from your hard disk (or from a floppy disk other than the one you're using for this experiment), check the experimental disk's System file size, jot it down, and launch ResEdit (make sure you have version 1.2).



**Figure 1: Your System file contains numerous resources that you can get along without if you're trying to conserve space. ResEdit lets you delete entire families of resources with a few clicks.**

ResEdit will show you one window for each mounted volume. This is the only dangerous point in the process: If you get confused about which disk you're working on, you'll be in trouble. Click on your experimental disk's window to select it, and double-check that you don't click on the window corresponding to your hard disk (or current startup disk). If your experimental disk is a floppy disk or a cartridge drive, you'll notice a close box on this window. If you close it by accident, you'll eject the disk or cartridge. Reinserting the disk will bring up its window again.

At the top level of this window, the items are

If you need to construct a *really* small System, you will need to edit the System file.

## 50 Icons and Counting

Last month I asked you how many regular-sized icons you could fit into an SE-sized window, without any overlapping. The answer is 50. To arrange your desktop icons in this way, you have to use ResEdit or Mike O'Connor's Layout utility to set the icon spacing and phase. In ResEdit, open the Finder and its LAYO resource 128. Scrolling down the list of settable features, you'll come to the three that you need: Icon Vert. spacing, Icon Horiz. spacing, and

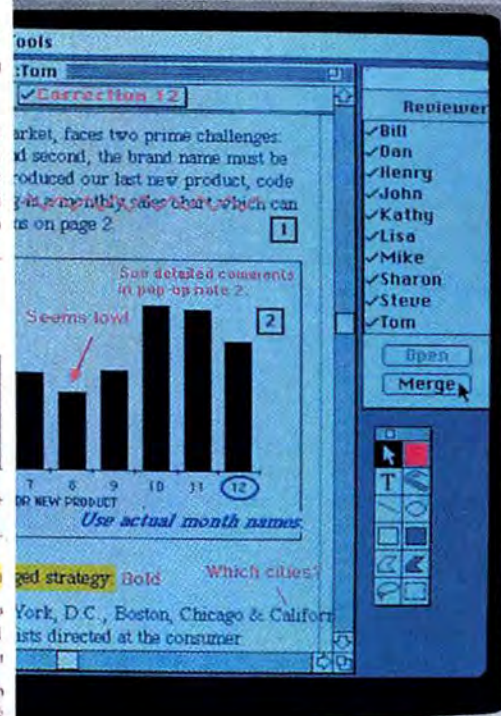
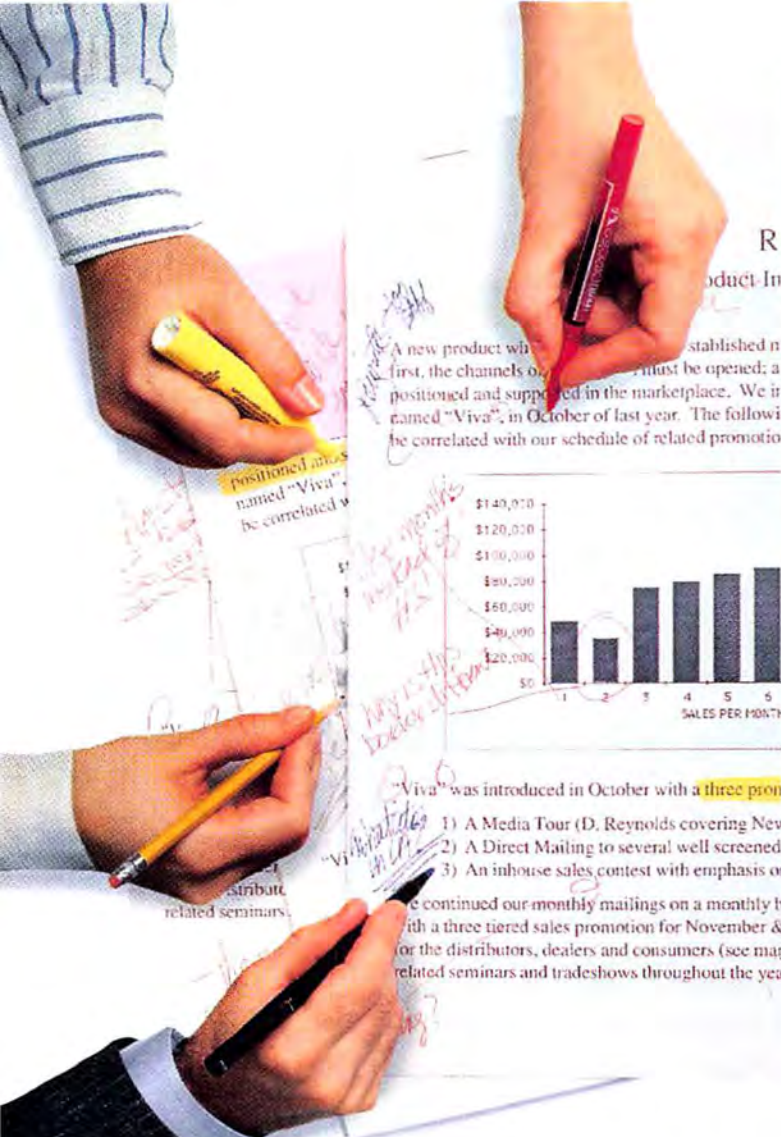


Icon Vert. phase. A little experimentation with these will show you the values you need. With Layout, you adjust these three parameters by simply moving the icons in the main Layout window.

The entries in the monthly puzzle contest have been overwhelming; I'll present the solution devised in the winning response (out of all the entries received before this answer goes to press) next month.



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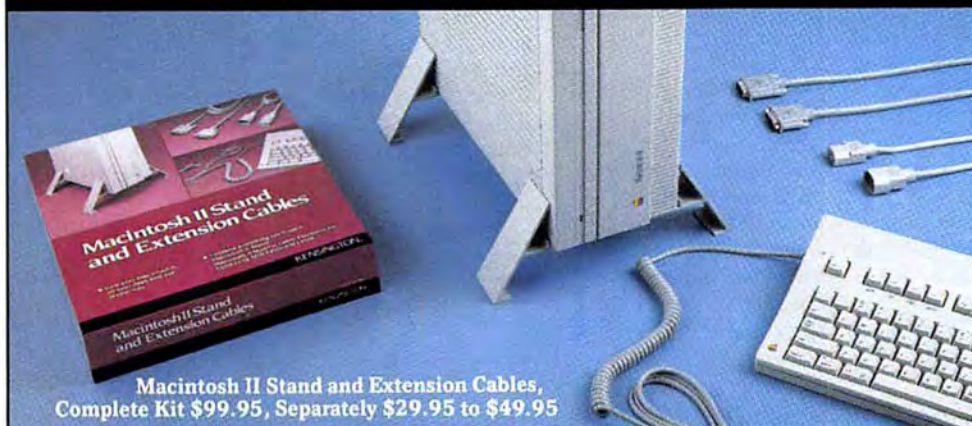


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names of folders or loose files on the disk. Double-clicking on one of the folder names brings up another window containing the files and folders in that folder. That's all pretty obvious, but double-clicking on the name of a file does something that you won't see happen on the desktop: It displays the internal structure of the file. (In System 7, you'll be able to get at the resource level directly from the desktop.) Double-click on the System Folder to open it, and then double-click on the System file to "open" it.

What you see is a list of four-character strings, which are the names of the resource types contained in the System file's resource fork. These are not resources; you need to click on one of these resource-type names to get a display of the resources of that type in the System file. Some of the resource types in my System file are shown in Figure 1.

It's possible to edit individual resources, but for this experiment, we'll do something simpler—we'll just throw some resources away. Make sure you know what you're discarding; otherwise, your Mac could lose an important function.

Since we know what fonts are, let's trim down our System as Steve did by eliminating unnecessary fonts, or FONTs, as the list of System resources identifies them. Of course, Font/DA Mover accomplishes this same task in a manner that's less dangerous for your System, but I have reasons (which you'll see later) for taking this adventurous route.

Double-click on FONT and then on any font name in the list of fonts that comes up. Press Delete, and the font will disappear from this file. At this point you may want to reassure yourself that you are working on the right disk (although if you've been careful, you won't need to). Follow this procedure with the other fonts to delete every unnecessary font. Since the System likes to use Chicago, Geneva, and Monaco, retain all sizes of these fonts for the moment.

Back at the resource-type level, you'll notice a resource type FOND. The FOND resources also contain font information, and you'll now need to delete the FOND information corresponding to the FONTs you've deleted. If you've deleted an entire font family, this will be easy: Delete the FOND resource corresponding to each deleted FONT family. Otherwise, you'll have to edit the FOND resource, and that's beyond the scope of this month's column.

At this point, let's quit, saving our changes. Check the size of the file to see how much disk space you've saved. Label this disk experimental if you haven't already, and don't copy its System file to any other disk. Try booting

from this disk. Even if you've botched the job terribly, the worst that will happen is that the disk won't boot, in which case you can reboot from a good disk, replace the botched System with a good one, and start over.

I referred to saving disk space, but cutting down the size of your System also frees up some memory. The chief benefit of the exercise, though, is to learn what the components of the System file are for. For example, if you delete the FKEY (function key) resources, you'll lose certain capabilities; the best-known FKEYs are probably Command-X, Command-C, and Command-V, for the Cut, Copy, and Paste commands, respectively.

## Find Out Yourself

I invite you to explore further, and as an incentive, I'll provide this challenge: I'll give a Beat the System T-shirt to the slickest job of System file minimizing I receive.

To enter the competition, start with a standard System file and attack whatever resources you feel may be bloating the file. Don't send me a disk; just send, by conventional mail please, the following information: your full name and address, what kind of Mac you're using, the System software version you're running (for example, 6.0.3), your System file's size in bytes, and a complete list of resources deleted or modified—and include your T-shirt size.

I'll award only one T-shirt, but since different System software version and machine configurations present different challenges, I expect to acknowledge more than one solver in this space.

## A Truly Excellent Disc

You can't buy Phil and Dave's Excellent CD at any store. That's too bad. It's a very good compact disc—good enough to justify buying a CD-ROM drive.

However, if you're a certified Macintosh developer (or an Apple Partner or Apple Associate), you should have already received a copy. Phil and Dave's Excellent CD is a first cut at a new way of providing the large amounts of information Mac developers require.

At the moment, Apple's Developer Technical Services sends out reams of paper and scads of disks every month. The new plan calls for developers to receive a CD similar to Phil and Dave's Excellent CD every three months.

Phil and Dave's Excellent CD contains several partitions. There's a Mac partition with about 170 megabytes of data, there's a ProDOS partition, and there are seven tracks of audio.

The Mac partition contains a huge amount of useful material. There are help files, code snippets, and every Guided Tour disk that was ever shipped. There are copies of all of the *Macintosh Technical Notes* (except, inexplicably, #31: The Amazing Dogcow), Q&A Stacks, and great small utilities created by Apple.

For those who need them, there are copies of all the System software that has ever been released. Twenty-five international versions of the System software and HyperCard (from Arabic to Turkish) are also on the disc.

The audio sounds like the sound tracks of many of the better Apple videos. It's a bit loud but not at all bad.

— Steven Bobker





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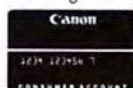
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Understanding two simple concepts makes the difference between SCSI chaos and smooth sailing.

# SCSI Solutions

**S**mall-computer-system-interface (SCSI) devices bring more functionality to the Mac, but they also introduce complications in the way the Mac reads signals — even from an internal hard-disk drive. Some conflicts are serious enough to damage your data or Mac, but most are common and easy to

fix. The two most common points of SCSI confusion are addressing and termination. If you follow the guidelines below and *still* have problems, check the tips in the SCSI Diagnostic Checklist.

**By Kristi Coale**

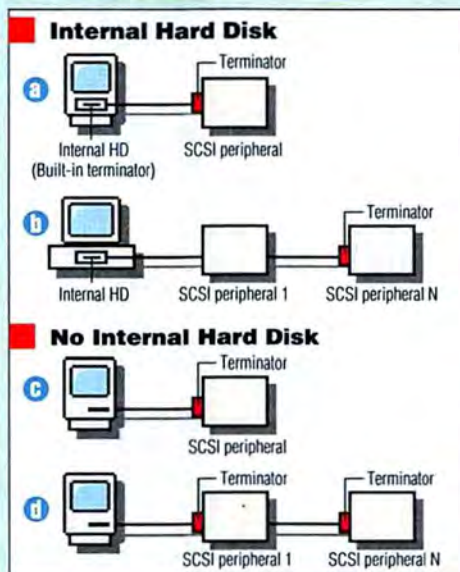
## Chain of Command

SCSI devices are connected in a single daisy chain, the total length of which should not exceed 18 feet. To set up one of these chains, you need to know two basic principles. The first of these is *addressing*. Each device must have a unique numeric address between 0 and 7. The Mac itself (from the Plus on up) is a SCSI device, with address 7. In an SE or II, an Apple-installed internal hard disk has a default SCSI address of 0 (although this can be changed), which leaves addresses 1 through 6 for additional SCSI peripherals. Different devices have their addresses set in different ways — such as through software (although this is becoming less common), through external DIP switches, or through simple push buttons or dials.

Addresses really do have to be unique. If two devices have the same SCSI address, it can cause System and hard-disk crashes. (To boot a Mac with two devices with the same address, use a floppy disk with a System Folder on it.) Always check for such conflicts before you connect the devices in a chain.

Picking appropriate SCSI addresses is also important because it can influence which hard-disk drive your Mac will boot from. When the Mac starts up, it first checks to see if there's a disk with a System Folder in an internal or external floppy drive. Next, it checks for a serially connected hard drive, and then it looks on the device specified via the Startup Device cdev. If it hasn't found a System Folder yet, it starts checking the SCSI chain. It looks at SCSI address 0 first and then jumps to address 6 and continues downward, booting off the first System Folder it finds. (The physical order in which you connect SCSI devices doesn't matter — just their SCSI addresses.)

## The Terminator



**Figure 1: The rule is simple: Terminate the first and last devices in a chain. But confusion persists because many SCSI devices have internal terminators. Internal hard disks have internal terminators; if you have one, terminate only the last device in the SCSI chain (a and b). With no internal hard disk and only one peripheral (c), terminate the peripheral. With more than one peripheral (d), terminate the first and last ones.**

The second important SCSI principle is *termination*. A terminator is a resistor that reduces signal echoing along a chain of SCSI devices. Any SCSI device (except the Mac) can be terminated, but Apple recommends that you terminate only the first and last SCSI peripheral devices in the chain. That means two and *only* two terminated devices.

The internal hard disk in an SE or II has an internal terminator. So if you have one of these, then one end of the chain is already terminated and you need to terminate only the other end. If you have a Plus (or an SE or II without an internal hard disk), you'll need to terminate both ends of the chain (see Figure 1).

Adding to the confusion is that many SCSI devices have internal terminators. Because there's no easy way to tell whether a device has one, check your owner's manual. If a device has an internal terminator, place it at the end of the SCSI chain.

If you have two internally terminated devices, you have a problem. A few SCSI devices have switches for turning the internal terminator on and off; removing an unswitchable internal terminator isn't impossible, but it may not be easy either. Call the manufacturer's technical-support line for help. The only real solution is prevention: Don't buy peripherals with unremovable terminators.

You can easily terminate devices that don't have internal terminators by placing an external terminator into one of the device's two SCSI ports. This terminator looks like a connector that has no cable attached to it. Generally, you should plug the cable into the terminator and plug this terminated cable into one of the SCSI ports. (With many SCSI devices, you can also plug the cable into one port and the terminator into the other port. This gives you lots of permutations to experiment with if things aren't working.)



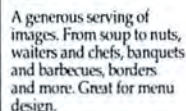
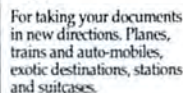
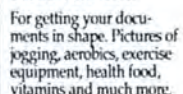
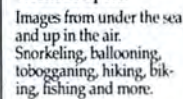
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## SCSI Diagnostic Checklist

**Tools:** You may need an Apple-spec SCSI terminator, spare SCSI-to-Mac or SCSI-to-SCSI cables (short and long), and SCSI Probe 2.01 or SCSI Tools utility software.

**Hazards:** Shut down your Mac and all peripherals before connecting or disconnecting SCSI devices to avoid damage to yourself, your Macintosh, or your data. If you use a SCSI hard disk, be sure to back it up before beginning any of the procedures described here.

Unfortunately, even if you try to follow all the rules religiously, you might still have problems. Sometimes the Mac will not mount a peripheral it can see; other times the Mac can't see a peripheral at all. The problem could be too much termination, too little termination, insufficient warm-up time, SCSI-ID conflicts, a bad connection, or an overload of the SCSI bus. The latter occurs when too many signals come to the SCSI bus at once, which prevents the Mac from distinguishing among different devices. Consequently, the Mac might skip over one or more of the SCSI devices during the startup routine.

Figuring out what's causing the problem is usually a matter of old-fashioned trial and error. No one can predict what's going to work for any given system on any given day. If you have problems, try the steps in the following checklist:

○ **Restart the Mac.** If at first the Mac misses a device in polling the SCSI bus, try, try again (only up to a point, though). Remember that peripherals need to warm up before they can send signals to the Mac's SCSI bus. To avoid this problem, always turn on your external devices first and let them warm up for several seconds before turning on your Mac.

○ **Check the cable connectors.** They should be snug in their ports, with the brackets attached. Connectors can come loose if your Mac is too close to a wall, where the cable can bend and add stress to the connection points.

○ **Check the cable itself.** Make sure all the connector pins are where they're supposed to be. Sometimes pins get pushed out of position when a connector is forced into a port or onto a terminator. If you still have problems getting your Mac to recognize a SCSI device, try another Mac-to-SCSI or SCSI-to-SCSI cable (connecting peripheral to peripheral) or another terminator.

○ **Check the SCSI device drivers.** One of your SCSI device drivers might be damaged. Try replacing all your drivers, using the utility software that came with your SCSI hardware. As a precaution, install the drivers one at a time, removing all other SCSI devices from the chain except the one that goes with each driver. Otherwise, installation software from one manufacturer could adversely affect devices from another.

○ **Try using different ports.** Remember to shut down the Mac and all the peripherals before you begin switching. The Mac may be able to read signals coming from one SCSI port on an external device and not from another. You might also try

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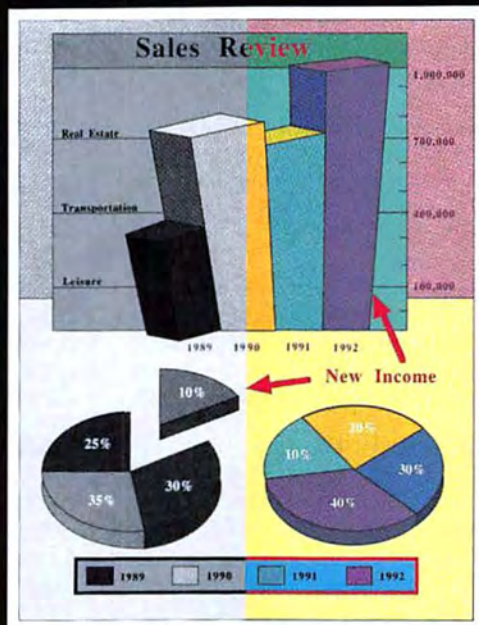


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**Figure 2: The public-domain programs SCSI Tools (above) and SCSI Probe let you mount a SCSI peripheral after startup — just click on the Mount button in either utility.**


placing the external terminator in one port and the cable connector in the other.

○ **Try another cable that's the same size.** Yours might be defective. Try one that's shorter or one longer. Yours might be the wrong length. Although it's hard to predict how cable length will affect SCSI chaining in a given configuration, it can have an effect. Shorter cables often solve the problem (although you'll sacrifice some flexibility in putting the devices where they're most convenient). Longer cables can help dissipate signal reflections and echoes caused by excess termination. Experiment — just don't exceed the 18-foot limit.

○ **Use a SCSI-checker utility.** If the utility software that came with your SCSI device doesn't do the trick, try SCSI Tools (from Paul Mercer) or SCSI Probe (from Robert Polic), two public-domain Control Panel documents that can mount SCSI peripherals on the Mac (see Figure 2). Both utilities show the SCSI

addresses for all devices that the Mac can see — handy because the utility software for your hard disk (or other SCSI device) may not identify hard disks from other manufacturers. Clicking on the Mount button in either utility forces the Mac to reread the SCSI bus and mount the peripheral. SCSI Probe also tells you the different types of peripherals that the Mac can see; the manufacturer; the product name; and what system software, if any, is running on it.

○ **Zap the parameter RAM (PRAM)** This is a part of memory that is retained with battery power when you shut down the Mac; resetting it clears the SCSI bus (it also resets some Control Panel values such as menu blinking). Press all the modifier keys simultaneously — Shift, Command, Option, and (except on a Plus) Control — while selecting Control Panel from the Apple menu, and you'll get a dialog box that tells you that you're zapping the PRAM and asks if it's all right to change your boot device. Click on yes. Once the bus is cleared, restart.

○ **Use peripherals one at a time.** This way, you'll have fewer problems with fewer devices. In an emergency, you can usually postpone the problem by unhooking unnecessary peripherals. For example, hook up your hard disk only, copy the needed files to a floppy, reconfigure with just a printer, reboot from a floppy to print, and so on. 

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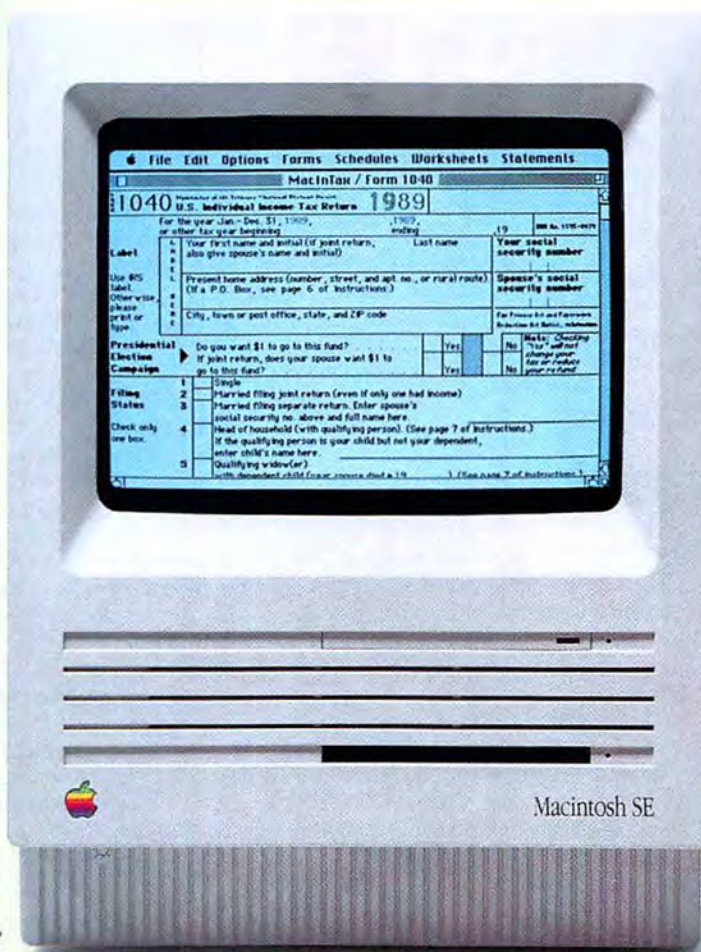
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# Tip Sheet

Readers  
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Tricks

## PageMaker

In PageMaker, using the Superscript and Subscript commands in the Type Specs dialog box to produce fractions yields a numerator that looks all right and a denominator that falls below the baseline. You need to do some kerning to bring it closer to the slash. You *can* do better, though:

1. Make the numerator superscripted as before, and make a note of the point size you've used.

2. Multiply the type size by  $7/12$  (since the superscript's vertical offset is  $7/12$  of the selected point size). This will give you the point size for the denominator (7 points for 12-point type, 6 for 10-point, and so on).

3. Select the new type size in the Type Specs box, and select Normal position (as opposed to Superscript).

4. Enter the denominator. Now you have a real fraction, right on the baseline, where it belongs.

This process takes a little time, but the fractions look pretty good, and our complaints department (me) reports a two-thirds drop in frustration!

**Jason Chalfant**  
Hagerstown, MD

## Ready,Set,Go! 4.5

You can increase and decrease the point size of text in Ready,Set,Go! right from the keyboard. Select the text whose point size you want to alter. Press Command-> (greater than) to increase the size of the text one point at a time; press Command-< (less than) to decrease the size of the text by one point.

**Merrill Zoldan**  
Bergenfield, NJ

## HyperCard

HyperTalk is a verbose language — and typing commands is often tedious. But thanks to Apple's MacroMaker, typing HyperTalk scripts can be a breeze if you turn the most commonly used words into macros:

1. When MacroMaker's active, its Cassette icon appears on the menu bar. If it's not active, put MacroMaker into your System Folder and restart.

## File Formats



**Figure 1: Examining PICT resources in ResEdit can be maddening, mostly because ResEdit's view of them is limited. To get a better view, select the PICT resource you want to see and copy (Command-C) it to the Clipboard. Next, open a graphics-viewing DA such as Aristo+ (a public-domain utility) or Zedcor's DeskPaint. Finally, paste (Command-V) the PICT resource into the open window of the DA. You see an enlarged view of the copied PICT resource while you're still in ResEdit.**  
**Patrick Kervran**  
Seattle, WA

2. Launch HyperCard. Record your macro from any stack, at any card (but not from the scripting window, which won't let you do anything other than enter and edit scripts).

3. Select Start Recording from the MacroMaker menu (the Cassette icon starts flashing).

4. Type in your most frequently used HyperTalk commands, bearing in mind that you won't see what you've typed.

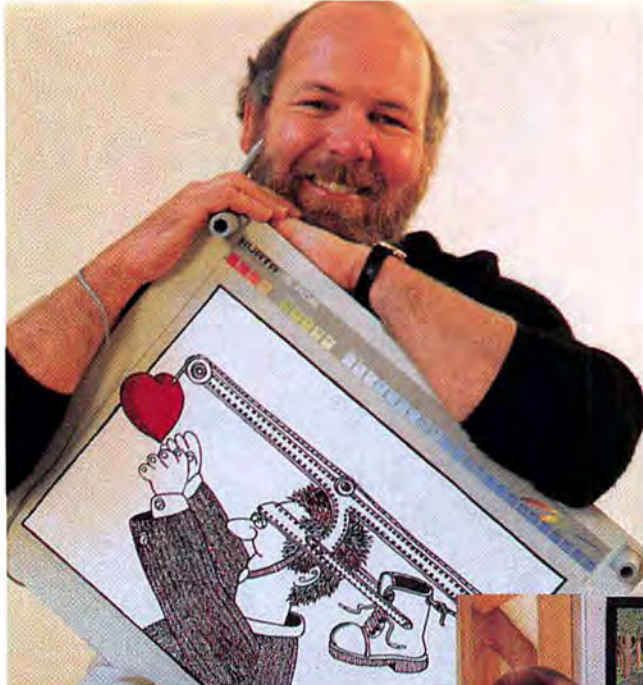
5. After entering each command, select Stop Recording from the MacroMaker menu (the icon stops flashing).

6. Assign a keystroke to the macro you've created — Command-Shift-U for `on mouseUp`, for example — and store it.

**Anthony T. Dunn**  
San Luis Obispo, CA

**Compiled by Gregory Wasson**





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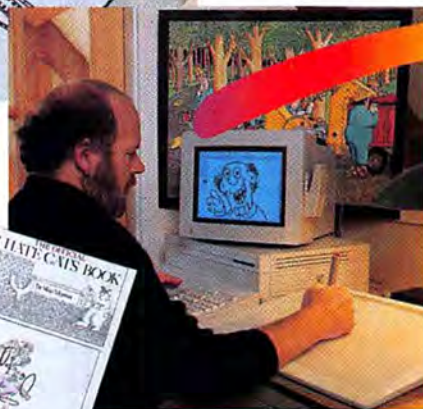
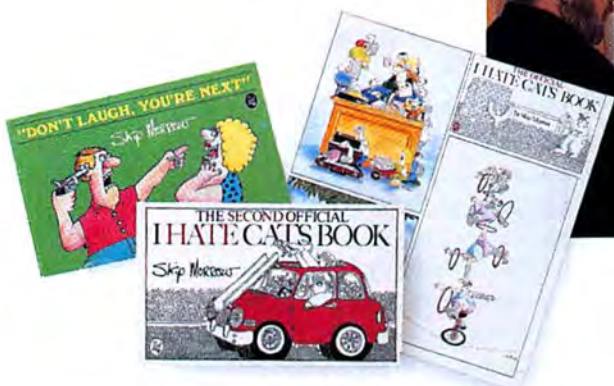


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## AutoMac III

AutoMac III, the macro program that comes free with Word 4.0, lets you create continuous loops in your macros. This is particularly useful when you want to set up an Auto-Save function:

1. Check your menu bar to see if AutoMac is active (you'll see a small-cap *a* to the left of the Apple menu). To activate AutoMac III, put it into your System Folder and restart.

2. Save a document, and click on the AutoMac icon. This brings up the AutoMac dialog box.

3. Click on the Record button. You'll see a dialog box in which you'll assign a key combination to the End of Recording dialog box and a name to the macro. Name the macro something such as Auto-save, and then click on OK and on Record.

4. Perform a save action (select Save from the File menu or, for most programs, press Command-S), and click on the AutoMac III icon.

5. Click on the Misc. button. This brings up the Recording Options dialog box.

6. Click on the S (stop playback until) button, and click on the radio button labeled "A fixed amount of time has passed." Type in the amount of time you want between saves, and then click on OK and on Continue.

7. Perform another save action, and repeat steps 4 through 6.

8. Click on the AutoMac icon again.

9. Click on the Misc. button. Click on the J (jump to a macro) button, and type in the key combination for the macro you are currently recording. This step creates a continuous loop that causes the entire macro to repeat itself.

10. Click on OK and on Stop. Your macro is complete.

Run the macro as soon as you open a word-processing document, for example, and your document will automatically be saved at periodic intervals. You can disable the macro (if you're not sure you

want to save your changes or if you're in an application that has no Save command or Command-S shortcut) by typing Command-Shift-Option-. (period). To reactivate it, press your assigned key combination again.

**Jeff Robbins**  
Newtown, PA

## Word 4.0

If you normally use Word's automatic footnoting feature to place footnote references as you type and enter each footnote's text as you go along, you're wasting time and energy jumping back and forth between the main document and footnote windows.

To avoid this kind of window hopping:

1. Insert the first footnote-reference number (Command-E) and press Return.

2. Close the footnote text window that appears at the bottom of your screen by pressing **Command-Option-S**.

3. Select the footnote number in the document window, and then copy (Command-C)

it to the Clipboard.

4. When you need a new footnote reference, paste (Command-V) it in. This inserts the proper footnote number every time and keeps you from having to deal with the footnote window until you want to do so.

5. For the last footnote, press Command-E. This gives you the last footnote's number and opens the footnote window, listing all the footnotes. Enter the text for each footnote, close the window, and save your document.

**Ward Barnett**  
Minneapolis, MN

If you're creating fonts with FONTastic Plus or similar programs, you must assign ID numbers to them. But how do you know that your font ID numbers won't conflict with those of fonts already in your system?

Word gives you a handy and unexpected way to get a list of all your fonts and their ID numbers. All you do is save a blank document in RTF

## Tip of the Month

## Word 4.0

Word 4.0 can perform global search-and-replace operations based on style (bold, italic, and so on), though this capability isn't obvious. You need to make the following adjustments:

1. Perform a Save As on your document (see Figure 2a), selecting RTF (Rich Text Format, a proprietary Microsoft format that encodes Word formatting in plain ASCII codes). You'll now have an RTF version of the document, laden with code (see Figure 2b).

2. Find the codes for the styles you want to change. For example, the RTF code for underline is `\u1`, the code for bold is `\b`, and the code

3. If you want to change all bold words to underlined, just search and replace, using those two codes. Save the file and close it.

4. Reopen the document, and respond Yes to the "Interpret RTF text?" prompt. The

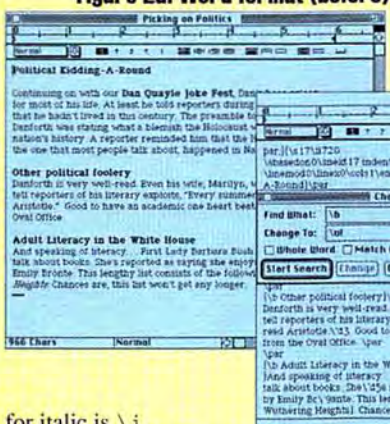
file will open, reflecting the style changes you made, sans RTF code, in an Untitled window (see Figure 2c).

### To get familiar with the RTF

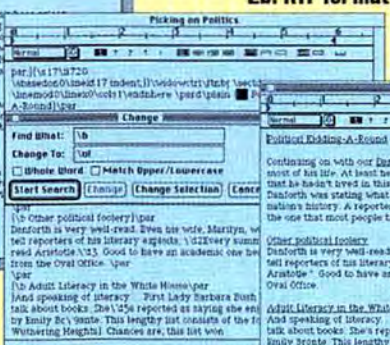
codes, create a test document with various styles and save it as **RTF**.

**David Rosenbaum**  
Amherst, MA

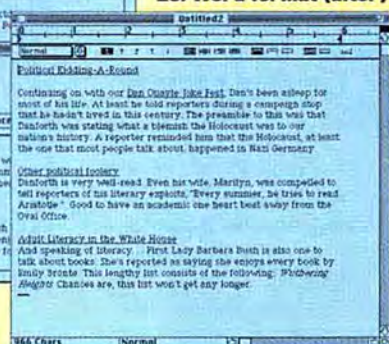
**Figure 2a: Word format (before)**



**2b: RTF format**

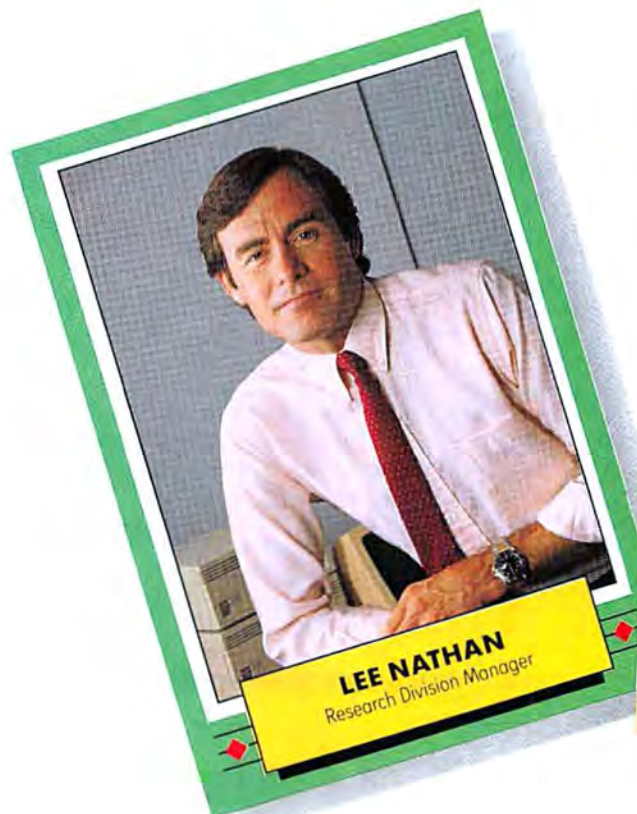


**2c: Word format (after)**





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**LEE NATHAN**  
Research Division Manager

**LEE NATHAN**  
Research Division Manager

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- **Object Menu:** Control the Type Font, Sizes and Styles of text objects. Fill and Pen options let you change the color and shading of almost every object!
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format. At the top of the newly saved file is a complete list of all the fonts installed in your System (or open in Suitcase), listed in numerical order.

**Spencer Jordan**  
Coon Rapids, MN

## MacDraw II

The grouping information stored in MacDraw II files for complex grouped graphics can cause the files to increase in size — sometimes dramatically. If you're desperately casting about for ways to trim some fat off a file, try ungrouping the grouped objects, and then save the file.

**Nathan Price**  
New Haven, CT

*[The same technique works for all of the major object-oriented or PostScript graphic programs such as Cricket Draw, Illustrator 88, and FreeHand. — Ed.]*

## MacWrite II

You've been updating your MacWrite 5.0 user dictionary regularly when you decide to upgrade to MacWrite II. Much to your chagrin, you discover that the MacWrite II program doesn't recognize your user dictionary from version 5.0. What do you do, short of reentering all your words into the new dictionary?

If you have a program, such as ResEdit or DiskTools II, that lets you change the file-type and -creator designations, you can convince MacWrite II to recognize your old user dictionary:

1. At the root level of your hard disk in ResEdit, open your MacWrite 5.0 folder, highlight User Dictionary, and issue a Get Info command (Command-I).

2. Examine the file type and creator for the user dictionary. In MacWrite 5.0, the file type is UDCT and the creator is SPF.

3. Repeat the first step for

## Smart Art

3a



Figures 3a and b: Special text effects created with LaserFX usually appear as gray boxes when placed as EPSF graphics in page-layout programs (a). With the help of Smart Art, you can take these old files and create screen images for them. To get Smart Art output as in this example (b), make sure your creator program saves the image in EPSF and that you're using a 300-dpi PostScript printer.



3b

MacWrite II's dictionary. Note that it has the file type CUdt and the creator CSpf.

4. Go back to the Info box for MacWrite 5.0's dictionary. In the file-type box, replace UDCT with CUdt, and replace SPF with CSpf in the creator box. Be sure to type these in with uppercase and lowercase letters as shown.

5. Save your changes and quit ResEdit. When you open MacWrite II and check spelling, the Install Dictionaries box will list your old dictionary and MacWrite II will load it.

**Marc Cogan**  
Detroit, MI

## Smart Art

Smart Art has a use that's barely mentioned in the manual: It can create screen images for the EPSF files produced by some of the earlier text special-effects programs such as LaserFX. These first-generation programs have some wonderful effects, but when you place them in a page-layout DTP program, all you see on-screen is a gray box. Smart Art fixes that, provided that the creator program can save files in EPSF and that you're working with

a PostScript printer (with 300-dpi resolution):

1. Save the effect as an EPSF document, and then open it with Smart Art.

2. Click on Smart Art's Reimage button. After a few moments, Smart Art creates a screen image of the text special effect (see Figure 3a).

3. Save the file once more from within Smart Art. When you place the EPSF graphic in PageMaker or some other program, you'll actually see what the graphic will look like when it prints out (see Figure 3b).

Not only does this greatly improve screen aesthetics, but it also makes it easier for you to position and manipulate graphics.

**Linda Reynolds**  
Sunnyvale, CA

## Keyboard

On Apple's Extended Keyboard, the Help key is too close to the Delete key, which presents a problem in most word processors. Should you inadvertently hit the Help key when reaching for the Delete key, you're stuck waiting for the Help window or Open window to come on-screen so you can click on Cancel. To avoid this annoyance, use any macro

program such as MacroMaker or Tempo II to write an empty macro (one that doesn't do anything) and assign it to the Help key. Now when you hit the Help key by mistake, nothing happens.

**Jeffrey Cannon**  
San Diego, CA

To trim some fat off a MacDraw II file, try ungrouping the grouped objects and then saving the file.



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# Help Folder

## Answers to Readers' Questions

### Talkin' 'Bout My Organization

**Q.** As a writer, I've been storing away information for years (articles, quotes, news items, trivia) like a pack rat. My problem now is that I have too much data. It's scattered among filing drawers, ring binders, index cards, hanging files, and bulging folders. Looking up one item can take days. I would consider using a database, but I don't know which to get. Most of them are designed for business applications, not for storing and cross-referencing textual data. I have a 1-megabyte Macintosh Plus with a 100-megabyte hard-disk drive. I need to archive data more than I need to retrieve it. What software should I use to help me dig out from under my information overload?

Paul Wermager  
Honolulu, HI

**A.** A flat-file manager should do the trick. Flat-file managers create single-file databases or tables that let you store and manage information that you can search, sort, and output as a report. (These differ from so-called relational databases in that they don't store information about how one set of data relates to another; changing the data in one place has no effect on other data that might prove pertinent.)

There are several packages to choose from: File, File-Maker II, RecordHolderPlus, Panorama, and Filevision IV,

as well as the DAs Database and Retriever (see "In Single File," November '89). All of these let you enter text, numerical, and picture fields. Once you've entered the stats for your documents, you can do a keyword search for any one document.

Although its primary use is as a phone-number and address index, QuickDEX from Casady & Greene (P.O. 223779, Carmel, CA 93922;

[408] 624-8716) is also a good desk accessory for storing information for keyword searches; you can enter all your information in one place, and you can easily search for information by keyword or theme.

If you need to do only occasional searches — and don't mind considerably slower searching capabilities — you can sort and store your notes in word-processing files and use the word processor's own searching capability to zero in on notes relating to the subject at hand.

If you create separate files and folders for each subject, you may find that plain old

hard-disk organization does the trick (see "Hard-Disk Sanity," October '89, for some ideas). Add a text-searching utility such as Abbott Systems' CanOpener or Microlytics' GOfier, and you can even search for keywords in several documents simultaneously (even if they're saved in different word-processor formats) without opening any files. Any of these choices should help get you out from under the pile.

### Just Like It SIMMs

**Q.** I have a 1-megabyte Mac Plus and want to upgrade it to at least 2 megabytes. Where do I get the

## SuperCard or SuperSlow?

**Q.** Silicon Beach's SuperCard (reviewed in November '89) runs amazingly slowly on a 1-megabyte Plus. I visited a local dealer and discovered that it ran fine on a Mac II, but I'm not ready to invest in a Mac II just so I can use SuperCard. What can I do?

David Lees  
Monterey, CA

**A.** Silicon Beach is working on a version that runs 30 percent faster on all Macs. The company apparently felt that there were enough Mac IIs around to justify the release of SuperCard 1.0 because it runs well on

those platforms whose color, speed, and larger screens can reap the most benefits from SuperCard's extended-graphics capabilities. (See "The Machine Makes a Difference" table.)

On a 1-megabyte Macintosh, you can make more space for your project by not loading the Soft Editor, giving up the run-time editing capability.

You might encourage Silicon Beach to supply a small version of the Soft Editor with basic editing tools. And you can still do and learn a lot with SuperCard 1.0 on a Plus while you await your free upgrade, which should have shipped in October '89.

## The Machine Makes a Difference

	Macintosh Plus		Macintosh II	
	HyperCard	SuperCard	HyperCard	SuperCard
Duplicate three fields	19.32	103.49	18.88	55.34
Loop 1,000 times	1.11	0.30	0.34	0.07
Search for keyword	1.54	4.18	0.68	1.01
Combine three fields into one	78.51	169.81	35.36	66.44
Clear one field	5.88	29.14	1.62	16.36
Create 49 new cards	51.92	168.02	24.60	72.26
Set two variables 500 times	16.37	9.08	5.16	2.74

All times in seconds

While HyperCard was developed with the Mac Plus in mind, SuperCard 1.0 was designed for the Mac II. Most operations run slower in SuperCard on the Plus than they do in HyperCard (or in SuperCard on the Mac II). These tests were run on a

2-megabyte Mac II and a 1-megabyte Plus. In SuperCard, we tested to see if having the Soft Editor installed made a difference in speed — it didn't. All the SuperCard times were taken without the Soft Editor installed.



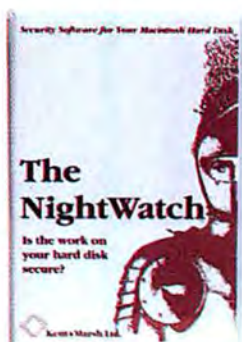
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MacSafe creates the functional equivalent of safes on the Macintosh desktop. You can restrict access to documents, applications, or whole folders of information across shared Macintoshes by moving your material into a "safe." New features give you Administrator override, Control Panel access, "Project Sets," the ability to move multiple files in simultaneously, and our new LightningCrypt™ encryption - now the fastest in the industry.



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memory, and how many SIMMs will I need? Do I need to replace the existing SIMMs? If I want more than 2 megabytes later, can I upgrade my machine further?

Howard J. Wick, Jr.

U.S. Embassy, Manila

**A.** A 1-megabyte Plus comes with four 256K SIMMs (single in-line memory modules). A SIMM is a narrow circuit board about 3 inches long that holds eight DRAM (dynamic random access memory) chips. Higher-capacity 1-megabyte SIMMs are also compatible with the Plus, but you must replace SIMMs in pairs. That means you can upgrade the original 1-megabyte configuration to a total of either 2.5 megabytes by upgrading two of the SIMMs and leaving two of the original SIMMs or to 4 megabytes by replacing all four of the 256K SIMMs with 1-megabyte SIMMs.

Not all memory is the same — there are different speeds and sizes. Surface-mount or low-profile SIMMs take up less room but are more expensive than the bulkier DIP (dual in-line package) or high-profile SIMMs. (You need to worry about conserving space only if you plan to install other hardware — such as an accelerator board.)

You must also pay attention to speed. For the Plus, you shouldn't buy RAM any slower than 150 nanoseconds. The maximum amount of memory you can have in the Plus is 4 megabytes, and you can add more RAM at another time. Unless you're really comfortable with opening your Mac, you should have your RAM installed by an authorized dealer. (See "The Persistence of Memory," February '89, for a how-to on installing RAM.)

### Sound Advice

**Q.** I have several sounds in HyperCard (resource)

format that I want to export from my stacks into a sound resource file so that MasterJuggler can access them. I have no difficulty in moving them, but I do have a problem in playing them. Many of the sounds are played at the wrong sampling rate (somewhat like a record being played at the wrong speed).

A Juggler utility called Sound Converter converts SoundEdit, SoundWave, or SoundCap files into sound resources and lets you choose the sampling rate when you convert sounds, but unfortunately, it doesn't let you change the sampling rate of an existing sound resource. I have a few other programs that do basically the same thing, and they have similar limitations.

I would also like to convert startup sounds — a format that the Sound Converter utility doesn't recognize — to sound resources.

Is there a public-domain, shareware, or inexpensive utility that can resolve this problem?

John P. Erpelding  
Westland, MI

**A.** Sound Manager Package is a sound-manipulating shareware utility that can do any type of conversion, play sounds, and let you do some light editing. But you'll also need SoundEdit (one of the applications that is included with Farallon's MacRecorder sound digitizer) if you want to change the sampling rate of the resource.

Sound Manager can convert sounds to SoundEdit format; SoundEdit can save the sounds with a different sampling rate (although it can convert only from faster rates to slower rates).

Sound Manager is available for \$20 from Ettore Software, 67 Rue de la Limite, 1970 W-Oppem, Belgium; 011-322-2355978.

## A/UXiliary Space

**Q.** I am planning to purchase the A/UX operating system for my Macintosh IIcx. How much disk space does it need? Also, can System 6.0.2 and A/UX reside on the same disk? If so, do I need to partition the disk? Is there a way to have a prompt come up at boot time to ask if I want to use A/UX or System 6.0.2?

Nader Al-Tuwaijri

Safat, Kuwait

**A.** Generally, A/UX eats up a lot of hard-disk space. Apple recommends at least an 80-megabyte hard disk for A/UX and sells the software pre-installed on the external 80HDS (80 megabyte hard disk) (\$2,282) or internal Hard Disk 80 (\$2,182). You can also buy numerous IIx or IIcx configurations with A/UX

operating system. A/UX won't boot up by itself, and there's no option to let you choose between the operating systems at startup. If you want to access A/UX immediately after boot-up, use the Set Startup command (on the Finder's Special menu). Under MultiFinder, launch Sash, the application that initiates A/UX operation. (If



Start up "HardDisk A/UX" with:

☐ Finder ☒ MultiFinder

Upon startup, automatically open:

- ☐ Selected Items  
☒ Opened Applications and DAs  
☐ MultiFinder Only

Cancel

OK

**Figure 1:** Set Startup can take you right to Sash, the application that launches A/UX, immediately after startup.

preinstalled on an 80-megabyte internal hard disk. In any of these cases, the disk also has the current System software.

You don't necessarily have to partition the disk — in fact, if you're going to be switching between the operating systems frequently, you might find partitioning the disk to be a nuisance.

At startup, the disk automatically boots up the Mac

you're setting a startup configuration for use under the Finder, highlight the Sash icon instead of launching it.) After selecting Set Startup, you'll find the option "Upon startup, automatically open: Opened Applications and DAs" (see Figure 1). Click on the button next to this option, and then restart your Macintosh.

Sash will launch at startup, so you can get into A/UX right away.



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## Are Mac IIs RAM Tough?

**Q.** When memory was still difficult to come by, I purchased an Apple 1-megabyte memory-expansion kit (consisting of four 256K SIMMs) for my 1-megabyte Mac II. I installed the new memory in Bank B (which should have brought my Mac up to 2 megabytes), but when I started my Mac, the screen remained blank. I removed all the SIMMs and installed the new ones in Bank A — but my Macintosh still would not work. When I reinstalled the original SIMMs in Bank A, my Mac worked.

My Apple dealer let me experiment with four third-party, 1-megabyte SIMMs, which I installed in Bank B. My Mac worked fine, but it recognized only 4 megabytes instead of 5. The dealer said the 1-megabyte SIMMs were

100-nanosecond parts, and the original 256K SIMMs were 120-nanosecond parts, which “confused” the Mac II.

I am confused about why the original 1-megabyte expansion kit didn’t work. (Its chips are different in size and make from the ones that came in my Macintosh.) And I’m also confused about why I can’t use the original 256K SIMMs with the 1-megabyte parts.

As I understand it, if the SIMMs are fitted in groups of four, with the higher-speed SIMMs in Bank A, and if SIMMs of the same density but of a speed no lower than 120 nanoseconds are in Bank B, the Macintosh will work in a 5-megabyte configuration.

What went wrong?

John Petchell  
Wellington, New Zealand

**A.** Your dealer is wrong about different speeds of SIMMs’ confusing the Mac II. It’s the *capacity*, not the speed, that determines where you should place your RAM. In a Mac II, SIMMs are installed in groups of four, with the higher-capacity SIMMs in Bank A and equal- or lower-capacity SIMMs (or no

It’s the capacity, not the speed, that determines where you should place your RAM.

SIMMs at all) in Bank B. With 256K and 1-megabyte SIMMs, these requirements allow configurations of 8, 5, 4, 2, and 1 megabytes in a

Macintosh II. The speed of a memory chip has to do with how long it takes to produce a requested piece of information. The Mac II expects data from memory to be ready 120 nanoseconds (that’s a little longer than one ten-thousandth of a second) after it’s requested, at most. If it’s ready sooner, that’s fine, but the Mac waits 120 nanoseconds just to be sure. So putting 100-nanosecond parts into Bank A and 120-nanosecond parts into Bank B should be no problem.

The RAM-expansion kit you bought is defective, and you should return it under warranty. If it didn’t work alone in Bank A, it has gone bad. SIMMs are sensitive to static electricity, and Apple’s installation instructions require dealers to wear grounding straps and take care when installing them, lest they ruin the chips.

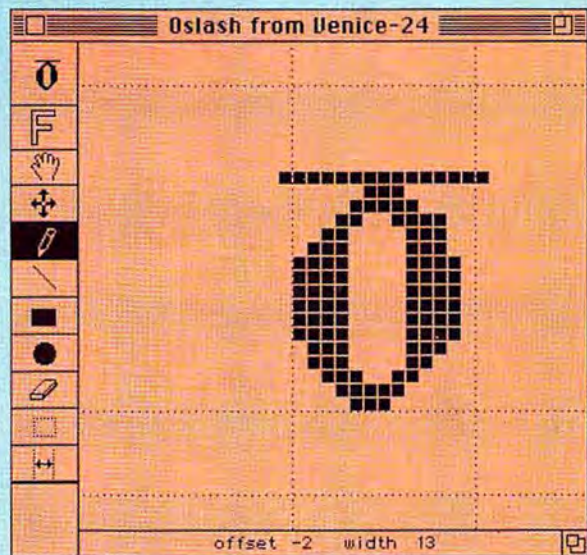
## Ö Say Can You See?

**Q.** Can you help me find a font that will put a macron (long sign) over the o (ö) in romanized Japanese? Macrons are needed over both lowercase and uppercase o’s. Right now, I have to add the macrons with a pen. With so much interest in doing business with Japan, it astonishes me that nobody provides a font with this sign.

Allen Morrison  
New York, NY

**A.** It is surprising that you can get other diacritical marks for such languages as Spanish, French, and even Norwegian right from Apple’s standard keyboard while other languages are left out. Although there is no font with the macron, you can rig your keyboard to include custom symbols such as macrons by using FONTastic Plus, a bit-map font editor from Altsys (\$99.95; 720 Avenue F, Suite 109D, Plano, TX 75074; [214] 424-4888). FONTastic Plus can add characters to System fonts and edit them or create a new font, but you should probably start off by adding to an existing font (see Figure 2). When you add the character, you can assign it to a seldom-used key (or to a unique key combination).

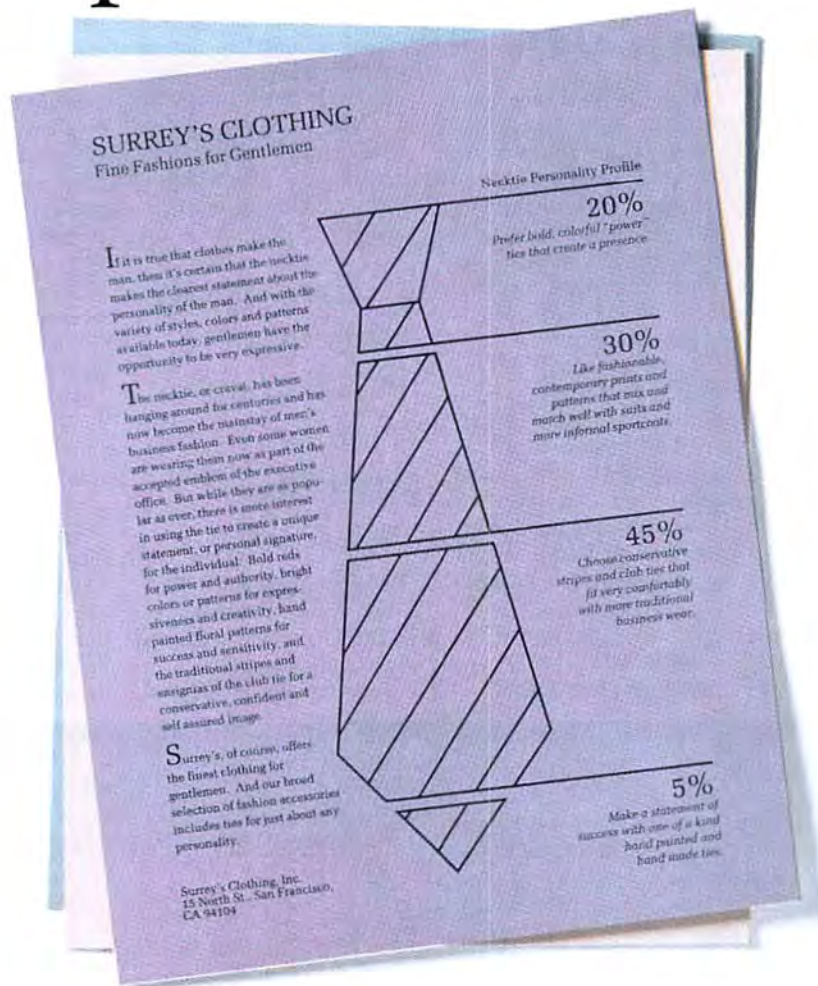
If you feel comfortable with ResEdit, you can use it to edit a character in any font. Again, make sure you edit a character you never use — you’re not adding another character, you’re *replacing* an existing one. (Like FONTastic Plus, ResEdit can create only bit-mapped characters.) You should make a copy of the font file and work on the copy until you’re really comfortable with font editing — otherwise, you risk losing some or all of the characters in a font. ☐



**Figure 2:** Font editors such as FONTastic Plus let you create new fonts or add diacritical marks (such as the macron) to your keystroke repertoire. Be sure to assign the new character to a keyboard character that you never use, such as Option-0 (Ø).



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Nearly every program has commands and shortcuts that aren't in the manual or Help files. Wouldn't it be nice to pick the brains of the folks who know an application best — its developers? We thought so too, so we got the Inside Scoop on a wide variety of desktop-publishing and graphics programs direct from their creators. In our first installment, Aldus offers some tips on FreeHand 2.0. In the news, Letraset revamps its product line, Persuasion gets a face-lift, and QMS debuts a new color PostScript printer.

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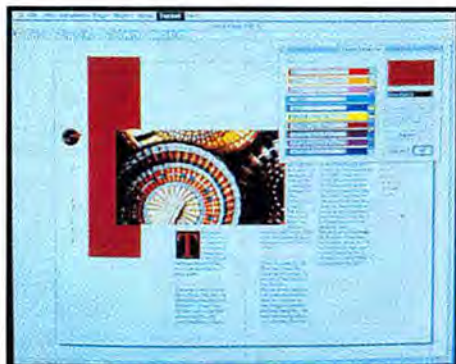
## BETWEEN THE LINES

### Letraset Aims High

Letraset USA has become the first major vendor to implement a product strategy aimed at the rapidly fragmenting DTP market. The company's new Studio line — DesignStudio, ColorStudio, ImageStudio, LetraStudio, and FontStudio — is an integrated series of high-end software designed specifically for graphic-arts professionals. The average desktop publisher, who doesn't need fancy bells or whistles (or four-color separations), can rely on Letraset's Business line, which includes Ready,Set,Go!, the venerable page-layout package, and StandOut!, a presentation program.

The Studio line includes two established products: ImageStudio (\$495), a gray-scale editing program, and LetraStudio (\$495), a type-manipulation program that works with the LetraFont type library (\$75 per face). An upgrade to ImageStudio should be shipping by now; it includes ImageStudio Effects, a set of plug-in tools that provide special effects such as rotation and drop shadows. Effects costs \$99 for registered users who want a retrofit. LetraStudio will be upgraded next year; improvements may include the ability to use any third-party PostScript font.

A new professional-level page-layout program, DesignStudio (\$795), is the cornerstone of the Studio line. It has an interface based on Ready,Set,Go!, but the resemblance ends there. DesignStudio uses a pasteboard metaphor (as PageMaker does) in addition to the usual text and graphics frames. It offers grids and guides for design work, and you can switch back and forth between them. Page elements can be grouped for moving, rotating, and cutting and pasting.

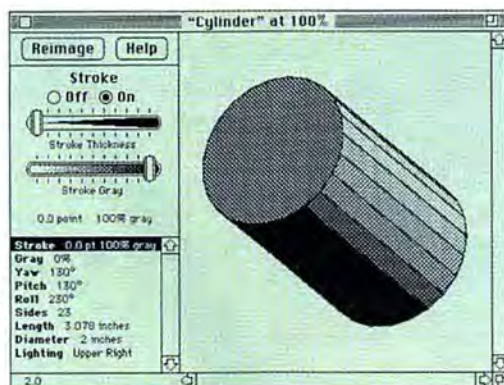


DesignStudio, the cornerstone of Letraset's new high-end design series, features a pasteboard metaphor, 24-bit color, rotated text, and the Pantone Matching System.

A rotation tool lets you rotate text, objects, or groups of objects down to one-tenth degree. Other features include editable thumbnails, a polygon tool, a "nudge" key for small movements, a Make Fraction command, configurable rulers that can have different horizontal and vertical units, case conversion (including small caps), vertical justification of text, kerning and tracking in increments of 1/1,000 point, reversed type, rag control, a spelling checker, preferential hyphens, the ability to search for and replace style sheets as well as text attributes, an object glossary, spot-color separations, and the ability to import most text and graphic formats.

DesignStudio supports crop marks, bleeds, and registration marks; can send output to any PostScript or QuickDraw device; and has a StudioLink to the Crosfield prepress system.

Both DesignStudio and ColorStudio offer 24-bit color and support the PMS



### Smart Art

Emerald City Software (Menlo Park, California) has released two new volumes of Smart Art, its series of snazzy PostScript special effects (\$149.95 each). Volume II has 15 customizable geometric shapes (left); Volume III contains 15 text effects that you can use with any PostScript font.





(Pantone Matching System), HSV (hue, saturation, and value), and CMYK (cyan, magenta, yellow, and black) color models. The two programs also provide Annexes, which enable third-party developers to create add-on modules (much like QuarkXPress' Xtensions). Letraset provides some initial Annexes for DesignStudio, including editors for kerning pairs and tracking.

ColorStudio (\$1,995) enables you to retouch color photographs or create original illustrations. Like its cousin ImageStudio, the program has a broad selection of tools for image selection, editing, and special effects. It provides extensive color-correction tools and performs four-color separations. It has an 8-bit mask layer that lets you work on selected parts of an image and assemble 24-bit color montages without hard edges. The masks can range from opaque to transparent in 256 levels of color. ColorStudio opens and saves files in a wide range of formats and uses a virtual-memory scheme that lets you open multiple images of any size,

limited only by hard-disk space. ColorStudio supports several color scanners and can exchange files with prepress systems.

FontStudio (\$595), which lets users create and edit PostScript fonts, will provide stiff competition to Altsys' Fontographer. It offers automatic curve fitting and tracing of images in PICT, paint, or EPSF files. FontStudio can also import LetraFonts fonts, Bitstream typefaces, and fonts created in Fontographer. The program includes a serif and accent library, pair-kerning tables, hinting algorithms for maintaining character weights at low resolutions, and other type-design tools. When you've finished working with it, FontStudio generates both outline printer fonts and bit-mapped screen fonts.

The three new Studio products were scheduled to ship in November. For more information, contact Letraset USA, 40 Eisenhower Drive, Paramus, NJ 07653; (201) 845-6100.

— Aileen Abernathy

## Fresh Persuasion

The sales of desktop-presentation packages haven't broken any records, but that may soon change. Aldus Persuasion 2.0 offers a comprehensive tool kit for making slides, overhead transparencies, speaker notes, and audience handouts. This major upgrade has supercharged outlining, improved graphics and



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## BETWEEN THE LINES

text handling, and automatic formatting for presentations. In addition, context-sensitive help is there instantly to guide you through any problems you might encounter.

Persuasion 2.0 can import EPSF files and ungroup and edit object-oriented PICT images, automatically regrouping them when you've finished. It supports 32-bit color both on-screen and as PostScript output. Its charting capabilities can create overlaid charts and organizational charts from outline text, with full control over individual chart elements. Drawing tools include an editable polygon, free-form lines, and graduated fills. Fifteen slide-to-slide transition effects, such as dissolves and wipes, have been added.

Its 36 editable AutoTemplates provide frameworks for automatically positioning and formatting text and graphic elements as they're entered or imported. These templates also help avoid the heart-break of impromptu format and size changes; when you switch from one

AutoTemplate to another, all related slides are automatically adjusted to the new layout. This reformatting capability can also fit slides properly within the image area of a selected output device.

A full-fledged word processor and spelling checker are also built in, with text attributes variable down to the character level. The outline view now gives you a freer hand by letting you select and rearrange multiple topics, even if they're not contiguous.

To woo the established base of PowerPoint users, Persuasion can import PowerPoint files and intelligently convert them to template-based Persuasion presentations. It has drivers to send your presentation to Autographix and Crosfield-Dicomed service bureaus and a coupon for you to purchase the Geni-graphics driver. Persuasion 2.0, \$495; upgrades, \$75 (free if version 1.0 was purchased after August 9, 1989). Contact Aldus Corp., 411 First Ave. S., Seattle, WA 98104; (206) 622-5500.

— Salvatore Parascandolo

## QMS Drops Prices

QMS has reduced the price on its ColorScript 100 Model 30 to \$15,995. This 300-dpi PostScript color printer features an external 16-megahertz controller with 8 megabytes of RAM, a 20-megabyte internal hard disk, and 35 PostScript typefaces. The Model 30 also offers Pantone color simulations and can handle paper sizes up to 11 x 17 inches.

QMS has also introduced the ColorScript 100 Model 10, the first color PostScript printer under \$10,000. It's the first to incorporate the new Mitsubishi G370 thermal-transfer print engine, which prints a letter-sized page in just 70 seconds with four-color ribbon.

The internal 16-megahertz controller has 4 megabytes of RAM and 35 fonts and handles letter- and A4-sized paper. Options include legal-sized paper and more downloadable fonts. QMS, One Magnum Pass, Mobile, AL 36618; (205) 633-4300.

— Aileen Abernathy

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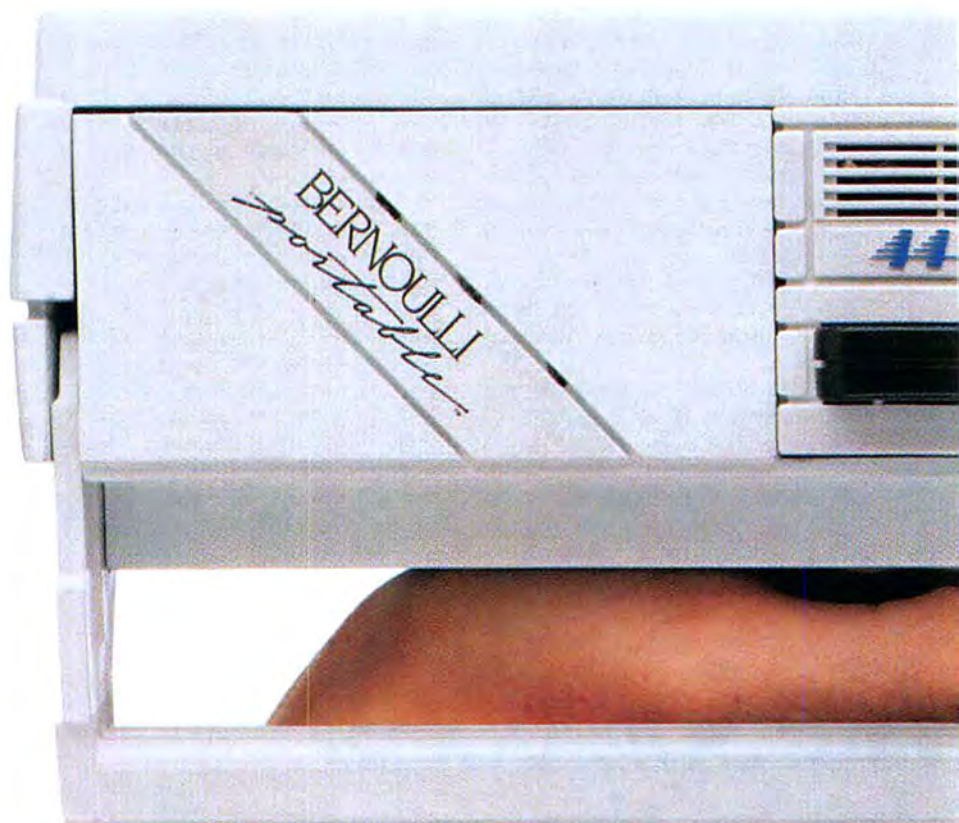
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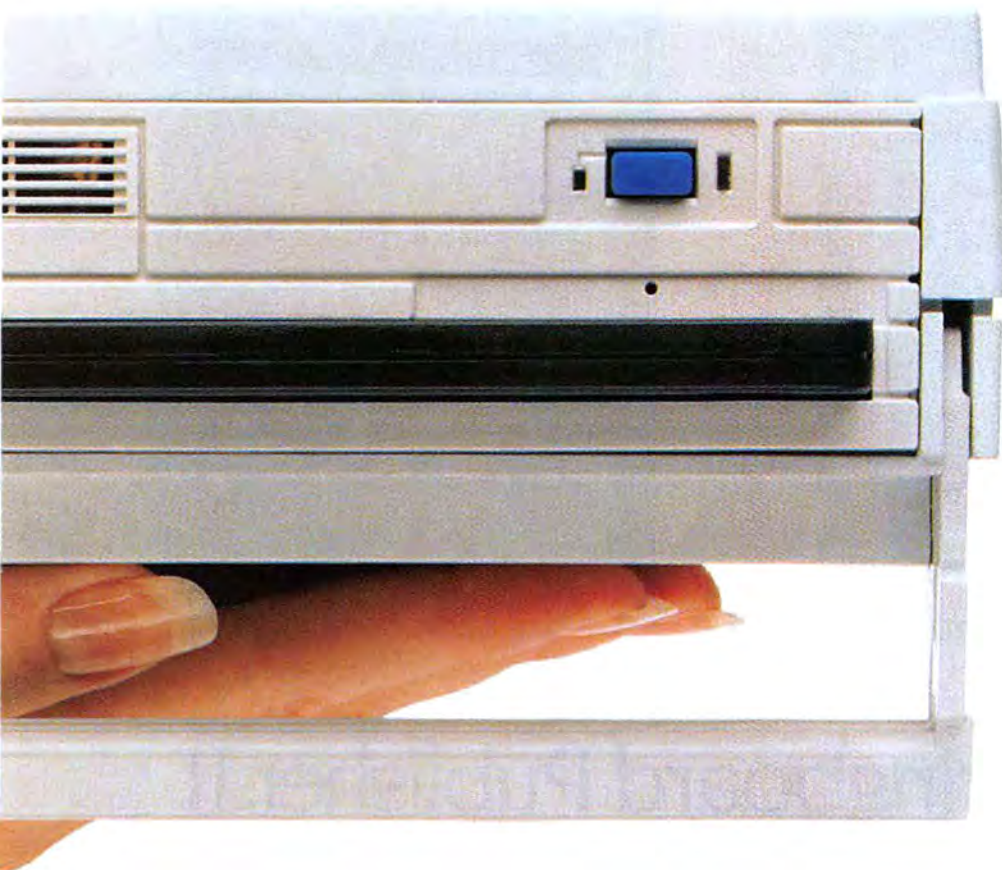
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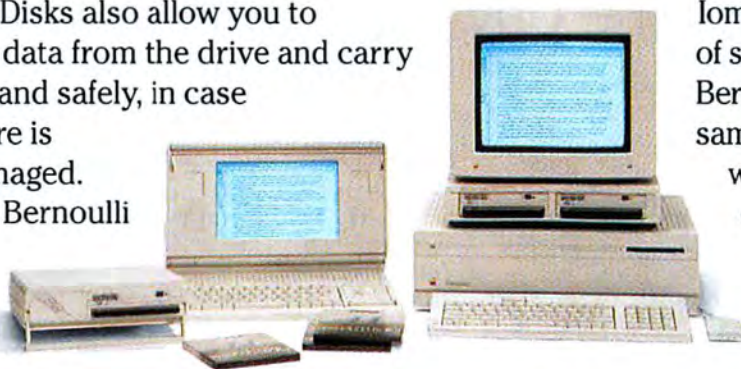


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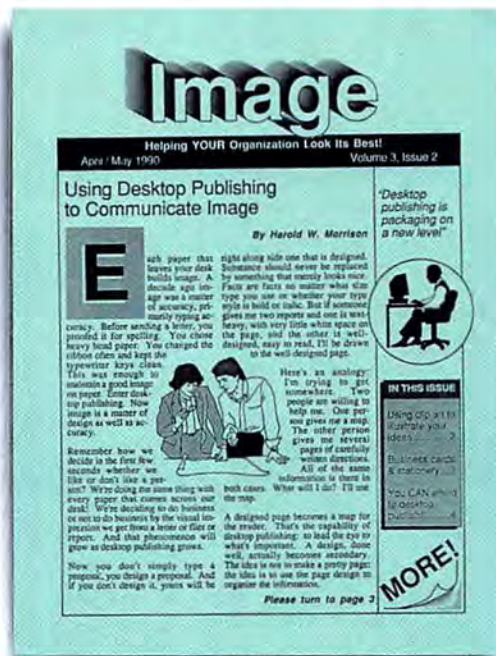
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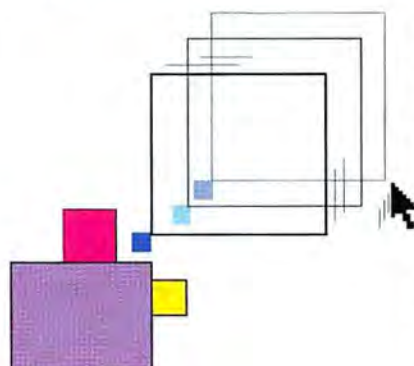


## Inside Scoop: FreeHand 2.0

Ever wish you had a direct line to the programmers and tech-support staff at the company that makes your favorite application? Then you could find out all the tips, tricks, and workarounds that they left out of the manual. Unfortunately for most people, that just isn't possible, so *MacUser* has done it for you. We picked the brains of the experts to get the Inside Scoop on your favorite DTP programs. In our first installment, Jane Dauber and Conrad Chavez of Aldus offer some sage advice on FreeHand 2.0.

- To deselect all the items in an illustration, press the Tab key. This technique is particularly helpful when you're in a close-up view and want to deselect an object without selecting a bigger one behind it.

### Dragging a small object



- If you can't drag a small object without grabbing one of its resize handles instead, try drawing a large object next to it, selecting both, and then putting the pointer on the big object to move them as a unit. When the little one is in the correct spot, deselect them and delete the "tow bar" object.

- To quickly get to the Edit dialog box to alter a line, fill, or color style, press the Option key and select the style from its menu.

- To save a reusable library of lines, fills, and/or color styles for use in other FreeHand illustrations, define the styles in a blank illustration file. You can additionally select a target printer and

print settings and add objects (such as a logo) that you want in every new document. Then choose Save as, name the file, click on the Template option, and save. The next time you need these styles, use this template to create your illustration. To make these styles the default settings for FreeHand, delete the Aldus FreeHand Defaults file that came with the program and assign that name to your file.

- Double-click on the trace tool to display the Curve and Corner dialog box, which lets you have more control over the number and the kind of points FreeHand applies while it is tracing.

- When tracing a gray-scale TIFF image, you'll get the best results if you make it into a black-and-white image first. Select the image, choose Element Info, and click on the Black and White option. Adjust the contrast and lightness to obtain the highest contrast and then trace the image.

- For faster screen redraws, work in Keyline mode rather than Preview mode. In the Document Setup dialog box, select Faster for display quality. In complex illustrations, use Layer Control to view only the layers you need to see while you work. Move TIFF images,

transformed text, and elements with complex fills to layers that are kept invisible until you need to see them. If you have a color or gray-scale monitor, use the optimum settings (2 grays or 256 colors); also use 2 grays (black and white) when you're working on black-and-white illustrations. FreeHand 2.02 has a new option in the Preferences dialog box, Always Draw Object-by-Object, which provides more visual feedback about the progress of the redraw. Finally, if you don't want to wait for the screen to finish updating, press Command-period to stop the redraw.

- When printing PostScript fills to a LaserWriter, make the color parameter gray (either 0 or 1) instead of color to speed up printing.

- To make TIFF files print faster, use black-and-white images whenever possible. FreeHand 2.02 prints these TIFF images significantly faster than version 2.0 did. If you've applied color to a TIFF image, the color processing will slow it down in either version.

- To obtain the smoothest graduated and radial fills, first be sure that the print quality is set to Better. This is very important. Lower screen rulings generally create smoother fills because they produce more shades of gray. However, screen rulings are closely related to printer resolu-

tion; a high-resolution imagesetter gives you smoother grays (and sharper images) at higher screen rulings. (There's a table of recommended screen rulings based on printer resolu-

### Graduated and radial fills



tion on page 9-12 of the *FreeHand User Manual*.) For best results, print to the highest-resolution printer you can find, such as an imagesetter that prints more than 2,400 dpi. Finally, smaller filled areas stand a better chance of being smooth than do larger filled areas.

- "PostScript error: undefined. Offending Command: save" — if you see this error message, your file has too many grouped subgroups. Ungroup some of them to solve the problem.

- If you're having trouble printing custom PostScript line

### Tracing a TIFF image



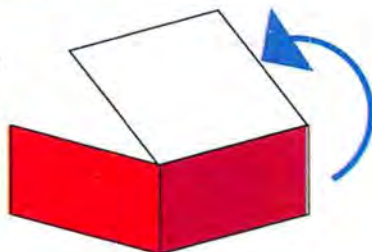


- 1 To create a 3-D box, first skew a rectangle upward to create one side.



- 2 Clone it and use the reflecting tool to click on a vertical edge and move the clone to the opposite side of the original.

- 3 Clone the second side of the box and ungroup the clone. Shift-select the lower left and lower right points of the cloned element. Release the Shift key, then click on one of these points, and drag to create the top of the box.



- 4 Give each side an appropriate fill or color.



To center text along the outside top and bottom of a circle, first make the two text blocks and set the text to be center-aligned. Draw a circle and ungroup it. With the knife tool, split the circle at the side points and delete the bottom half. Clone the top half and use the reflecting tool to make the clone the new bottom half of the circle. Join each text block with its respective half of the circle. To make the text go along the outside of the arcs, use the Element Info dialog box to align the text to the path, with the Baseline (top half) and the Ascent (bottom half) options.


and fill effects, be sure your UserPrep file is in the correct folder and properly named. If it's not in either the FreeHand folder or the System Folder, you'll get an "undefined" PostScript error.

- If your printer won't print a FreeHand file unless text is on the page, it's because you have old or incompatible System and LaserWriter-driver files. Be sure to update your printer files when you update the System file. For FreeHand, we recommend System 6.0.2 and LaserWriter driver 5.2, although you can use System 4.3 and LaserWriter 5.1 instead. Earlier versions of these files will adversely affect printing.

- Using more than two or three downloadable fonts usually overtaxes a printer's memory and generates a PostScript error. To avoid this situation, go into the Page Setup dialog box, click on the Options button, and check the box marked Unlimited Downloadable Fonts in a Document. You may want to set this option as a default.

- When you print a file, FreeHand adds up the size of the illustration, any bleed that was added, and the space required for

any print options you selected (such as crop marks and separation names). If all these pieces won't fit on the specified paper size, you'll receive an error message — if you add crop marks to a letter-sized page and try to print to letter-sized paper with a LaserWriter, for instance.

When printing to a LaserWriter, turn off the options that print information beyond your illustration area or select the Fit on Paper option in the Print dialog box. When printing to a Linotronic imagesetter, change the paper size to LetterExtra, which accommodates crop marks. 

## Word 4.0

Word's built-in PostScript routines and variables increase its value as a tool for desktop publishing. The ability to create crop marks, for example, or to place a screen behind a paragraph greatly enhances the usefulness and appearance of your work.

To create this screened paragraph with crop marks, we used the PostScript variables and routines that accompany Word 4.0. For a full description of Word's PostScript capabilities and the code that created these effects, see the DTP section in our September '89 issue. Unfortunately, in the original article, our printer took the crop marks too literally and trimmed them off. Here's a crop-mark example again, in all its glory.



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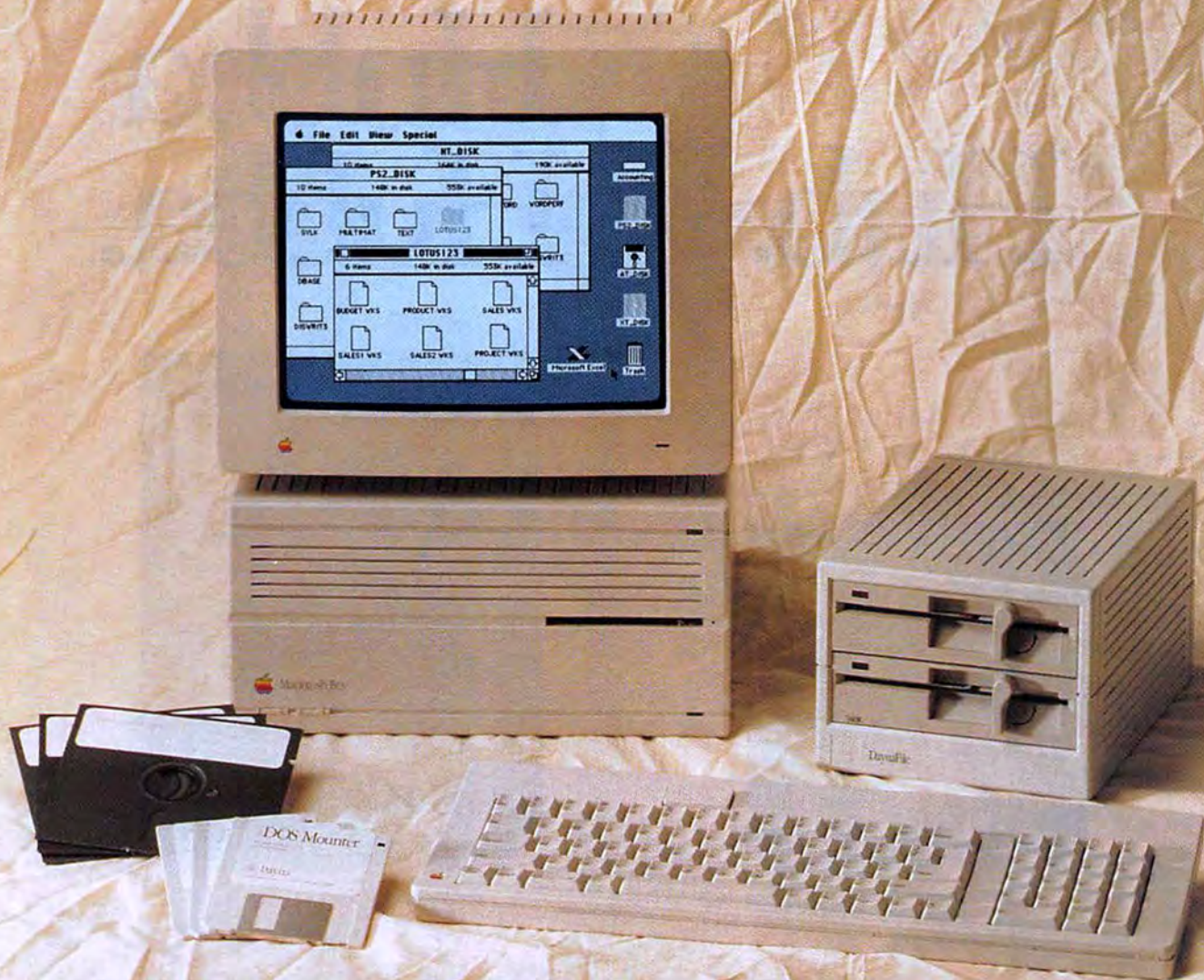
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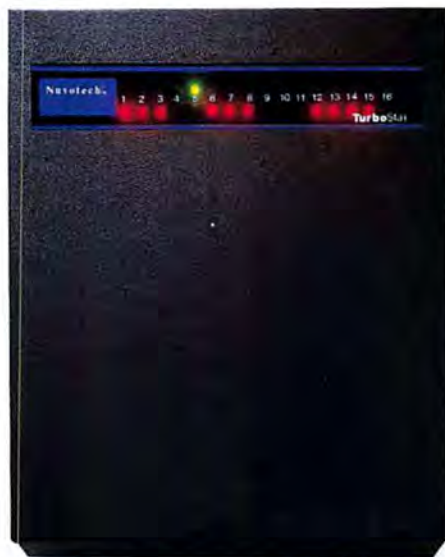
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## BRIDGES

**Must be the recent Voyager fly-by of Neptune (well, it was recent when this was written) — stars are everywhere this month. Kurt VanderSluis shows us how to wire an active-star network to make troubleshooting easier. In the news, Nuvotech has announced a new Ethernet active-star controller, and Farallon has a new gizmo for connecting Macs to its LocalTalk StarController. Meanwhile, Microsoft and CE Software are extending the reach of their mail programs with gateways to parallel mail dimensions.**

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EDITED BY HENRY BORTMAN

### Intergalactic Mail

Electronic mail on the Macintosh is slowly but surely coming of age. Both Microsoft and CE Software have announced E-mail products that cater to the increasing number of users on medium- and large-size AppleTalk networks.

Although its interface will be familiar to users of version 1, Microsoft Mail 2.0 has been rewritten from the ground up. An important feature for large sites is automatic address propagation, a scheme in which all mail servers communicate and exchange directories automatically. Each user always has access to an up-to-date directory of all internet users. This, together with a well-designed Find function for locating addresses on the network, allows even huge directories to be used efficiently.

In addition to providing support for gateway developers, Microsoft is offering kits that give non-Microsoft software vendors the tools to integrate Microsoft Mail directly into their applications. This integration is already supported in Microsoft's Word 4.0 and Excel 2.2. From within either program, you can send an open document via Microsoft Mail without having to open the Microsoft Mail DA. However, to support this feature in their applications, other developers must include the new integration code in future versions of their products.

CE Software has announced QuickMail Network Utilities, a package designed in part to help the administration of large QuickMail networks. In conjunction with QuickMail 2.02 or later, Network Utilities provides automatic address propagation similar to Microsoft Mail's. The lack of this capability was a major complaint of QuickMail users on large networks. Network Utilities' QuickMail Menus gives users the ability to send an open document from within any application. Unlike with Microsoft's scheme, however, applications will not need modification to work with QuickMail Menus.

Both vendors offer a slew of gateway options. CE Software had already developed several for in-house use, including telecommunications gateways to CompuServe, MCI Mail, and remote QuickMail servers. All of these are now bundled free with QuickMail, and gateways to AppleLink and PROFS (the IBM-based mail system Ollie North used) should be shipping as you read this. The AppleLink gateway is available for the cost of shipping and handling; CE will charge for the PROFS gateway, but the price wasn't set at press time.

Microsoft will provide gateways for



AppleLink (\$295) and MCI Mail (\$595). Third-party vendors supporting Microsoft Mail include Infosphere, whose Liaison software bridge supports server-to-server communication via modem; Pacer Software, which offers both a gateway to VMS Mail and a Microsoft Mail server that runs on a VAX; Touch Communications, which will furnish X.400 gateway services; and Cayman, which will provide SMTP (simple mail transfer protocol) gateway services in conjunction with its GatorBox. SoftSwitch will



## BRIDGES

offer a SNADS (a mail system common on IBM SNA networks) gateway with connections to (among others) PROFS, All-In-1, and VMS Mail.

Several third parties have gateway products for *both* QuickMail and Microsoft Mail 2.0. StarNine Technologies has an SMTP gateway to exchange mail with UNIX machines. SMTP is commonly used by UNIX systems on TCP/IP (transmission control protocol/internet protocol) networks. Alisa Systems provides connections to VMS Mail — strictly speaking, to any mail system using DEC's Mail-11 protocol. (The company also sells a Microsoft Mail *server* that runs on a VAX, but it has made no announcement of a similar product for QuickMail.) Solutions will be shipping FaxGate, which lets users send faxes directly from their Macs via either QuickMail or Microsoft Mail. In this way, several users on a network can share a single fax modem connected to the mail server.

Microsoft Mail 2.0, \$125 per client, \$395 per server; 20-client pack, \$1,495. QuickMail, \$69.95 per client; five-

pack, \$269.95; ten-pack, \$399.95 (server software included); Network Utilities package, \$59.95 per server.

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### Star Gazing

Nuvotech is shipping TurboStar, its LocalTalk multiport repeater (\$1,795). TurboStar has 16 ports, 4 more than the 12 ports offered by Farallon's StarController. It is self-configuring on power-up and, to a certain extent, also self-managing — it disconnects any port that jams the network.

Nuvotech has also announced three new Ethernet products that should be

shipping by the time you read this. The NuvoLink SC (\$495) is an external SCSI-to-Ethernet interface, similar to Kinetics' EtherSC and Adaptec's Nodem. The NuvoStar ET is an eight-port, active-star controller (repeater) for twisted-pair Ethernet networks. The NuvoNet ET is an adapter for connecting an Ethernet-equipped Mac to the NuvoStar ET. Prices for the NuvoStar ET and NuvoNet ET weren't available at press time.

**Nuvotech**  
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(415) 331-7815

### More Stars

You thought there were enough LocalTalk- and PhoneNET-type connectors? Well, Farallon's got a new one, the StarConnector. Unlike commonly used two-jack connectors, which are designed to be daisy-chained, the StarConnector has only a single RJ-11 jack and is intended

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for use in active-star networks. The StarConnector is terminated internally and is available only with a DIN-8 connector; devices with DB-9 connectors such as the LaserWriter Plus can't use it.

In an ideal active-star network, each device is wired to a central multiport repeater, such as Farallon's StarController (see Trouble Shots in this issue). In such situations, the StarConnector is a good solution. One device, one cute little connector, one jack, no termination woes.

We don't live in an ideal world, however. Undoubtedly, users will want to hang more than one device off a StarConnector. Farallon president Reese Jones was seen walking around the floor of the Boston Macworld Expo with a Radio Shack RJ-11 splitter plugged into a StarConnector and a twinkle in his eye. An RJ-11 splitter is one of those junky plastic gizmos that you use to plug both your phone and your answering machine into the same modular phone jack. Although you can abuse the StarConnector in this way, the official company line is: If you want to hang more

than one device off a wire connected to a StarController port, use standard two-jack PhoneNET connectors instead.

StarConnector, \$29.95. PhoneNET Connector (the StarConnector's predecessor), \$59.95, StarConnector ten-pack, \$249.95.

**Farallon Computing**  
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(415) 841-2331

## Signs of Intelligence

Network Resources is developing an intelligent Ethernet NuBus board, based on Apple's Macintosh coprocessor platform, which should be shipping when you read this. The Mac2000 has its own 68000 processor and RAM, so it can offload from the Mac's CPU much of the processing involved in Ethernet communication. In theory, this should improve the performance of a Mac that has the card installed. With a "dumb" card, one

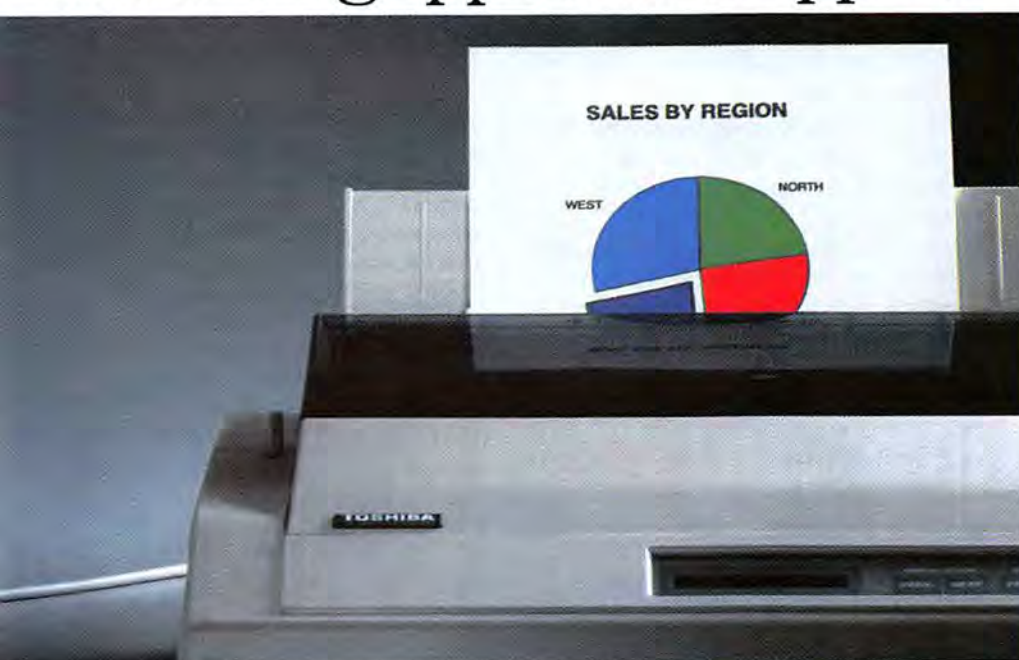
that has no CPU of its own, the Mac's CPU must do all the Ethernet protocol processing, leaving it less time for other work. But the "smart" Mac2000 also allows the concurrent processing of AppleTalk and other network protocols (so far, Network Resources is mum about what these protocols are).

Network Resources will provide drivers for Macs running either the native Mac operating system or A/UX. The latter driver will use A/UX's multitasking capabilities to provide the highest possible Ethernet performance. The Mac2000 will support Ethernet on both thick and thin coaxial cabling, and it's the first card to directly support optical fiber and broadband connections for EtherTalk. The board and its software will be AppleTalk Phase 2-compliant.

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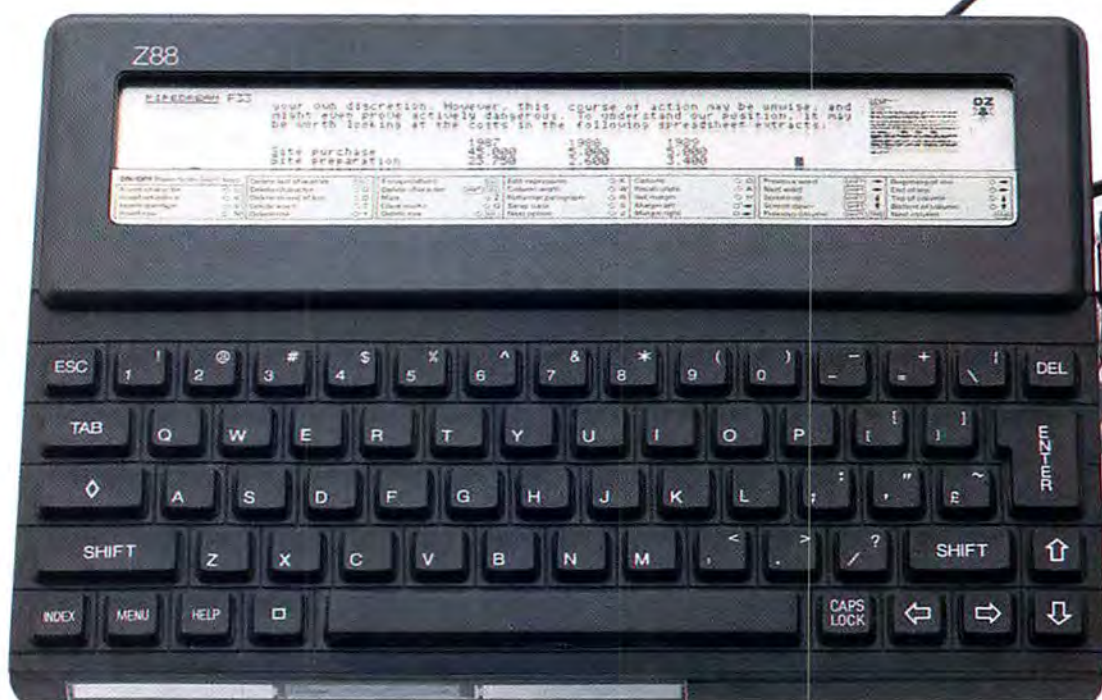
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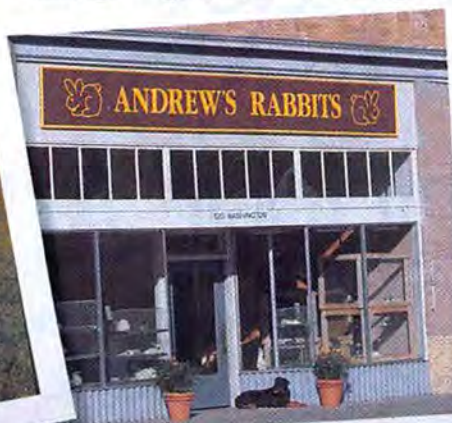
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# Wired

How to exercise restraint when wiring an active-star network.

By Kurt VanderSluis

In the September '89 issue, I began a discussion about troubleshooting a network with an active-star topology. Active-star networks have a multiport repeater, or controller, at their center, and the network wires are connected to it. Active stars are easy to troubleshoot. The repeaters add electrical robustness to the network, so the problems that do occur, such as a device disappearing from the network, tend to be noticeable and easy to find. However, you can always make life difficult for yourself by wiring the network improperly.

One great advantage of the active-star topology is that it can be neat and clean. You can keep it that way by using a standard wiring method. The standard you devise should make sense for the layout of your building. It should be flexible enough to meet your fluctuating needs without requiring periodic redesign. And it should be rigid enough so that when you walk into the phone closet, where all your network wires terminate, you can see immediately how things are wired. Note that the following discussion is primarily about neat-and-clean issues, not wiring-distance limitations or termination issues. We'll take for granted that you won't exceed physical wiring limits and that you'll properly terminate the network, as we've discussed in previous articles.

I'll use the term *wire run* extensively here. A wire run is a single, continuous length of network wire coming off the central repeater, with one or more devices attached to it. Each run can be configured as a daisy chain, backbone, or passive star. Farallon's StarController is designed so that a maximum of four wire runs can be connected to each of its ports. Nuvotech has not yet specified recommendations for a maximum number of runs per port for its TurboStar.

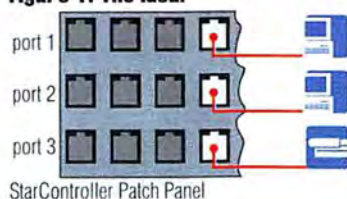
The theoretical best standard for both controllers is that each port has only a single wire connected to it and that on the end of this wire is a single machine. If I were going to wire an office for stockbrokers or lawyers, I'd choose this as the standard, since even a little downtime

for the network could be financially disastrous. The small investment required (around \$100 per node) is repaid in reliability. This "one port, one run, one device" standard (see Figure 1) is the most reliable because a multiport repeater electrically isolates each port from the others. If only one device is connected to each port, when a device goes haywire, other devices can still communicate on the network. Also, if the network develops a problem, it's very easy to locate by using network-management software such as Farallon's CheckNET or Apple's Inter-Poll.

If you can't afford to implement the best standard, there is one lower level of reliability that I recommend. It comes in three forms, all of which involve using more than one wire run per port or attaching more than one device to a wire. In

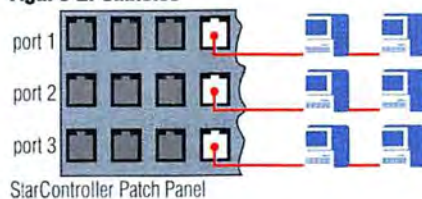
## Hitching Your Mac to a Star

Figure 1: The Ideal



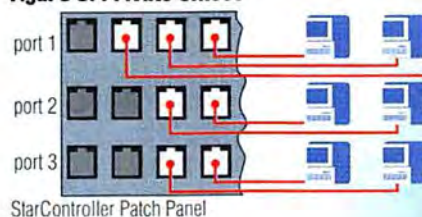
Troubleshooting is easiest if you use the "one port, one run, one device" standard when wiring a StarController or TurboStar.

Figure 2: Cubicles



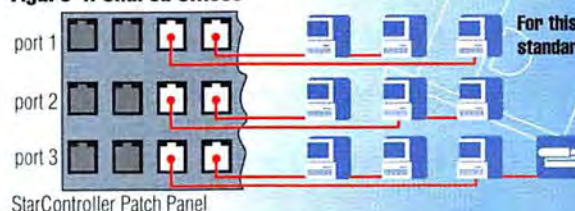
Cubicles lend themselves to the "one port, one run, multiple devices" wiring standard.

Figure 3: Private Offices



Here you might try "one port, multiple runs, one device per run."

Figure 4: Shared Offices



For this layout, the "two-by-two" standard works well.



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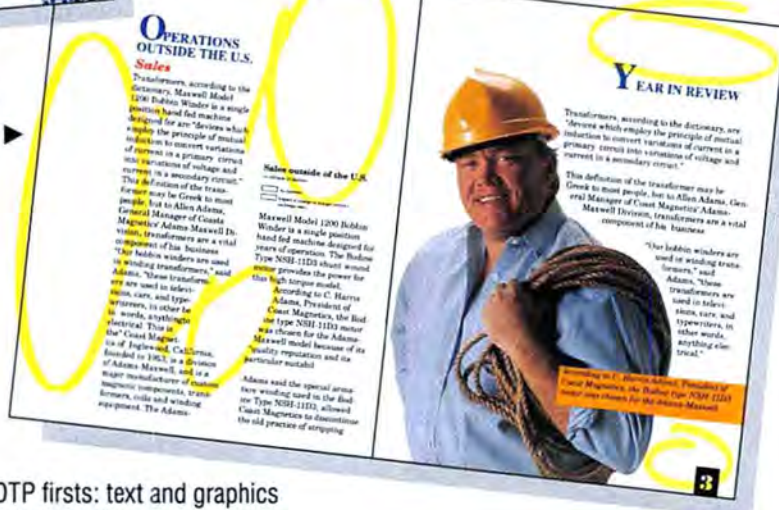
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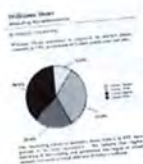
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each case, you are saving money at the expense of increased difficulty in troubleshooting and isolating problems. Which of these three second-level standards you should use depends on your particular layout.

For offices with modular furniture (cubicles), I recommend the "one port, one run, multiple devices" standard (see Figure 2). Using this standard, you limit each port of the StarController to a single run of wire out to a group of connected cubicles. Once the wire is delivered to the cubicle area, you can daisy-chain it to multiple devices with modular (flat) telephone wire. I don't recommend that you put more than four devices on a run. The daisy chain should not exceed 50

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**I**deally, each port of an active star controller should have only one device connected to it.

feet and should not go through the ceiling, walls, or crawl spaces or go across open carpet. Your wiring will be much neater and less likely to get damaged if you limit it to the wire raceways found inside the base of most cubicle partitions.

If the office is laid out mostly as private rooms or suites, then I sometimes recommend the "one port, multiple runs, one device per run" standard (see Figure 3). In this case, you may connect more than one run of cable to each port, but you attach only one device to each run. Although the StarController permits you to connect up to four runs per port, I recommend that you never exceed three.

If you have shared offices, you might adopt the "two-by-two" standard (see Figure 4). In this method, each port may have two runs, one going to each person's desk. Each run may have one or two devices.

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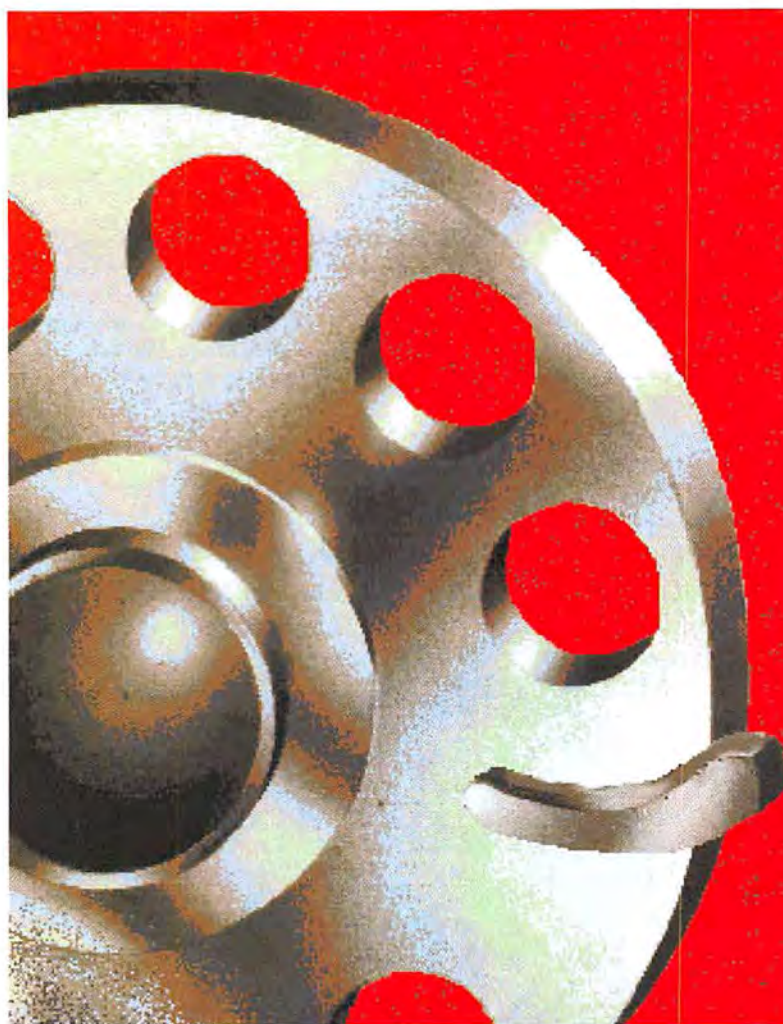
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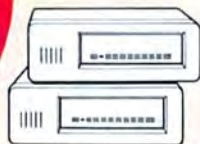
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1 Megabyte SIMMS .....Cal

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Studio 8 .....	319
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Mitsubishi Color Laser .....	6995
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Int SE/CX 46 .....	489
Int SE/CX 40Q .....	599
Int SE/CX 80Q .....	969
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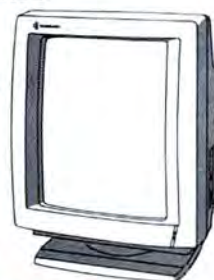
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Featured on the previous page are several members of our management team: (l to r) Barbara, Jim, Lew, Réal.



and Hardware

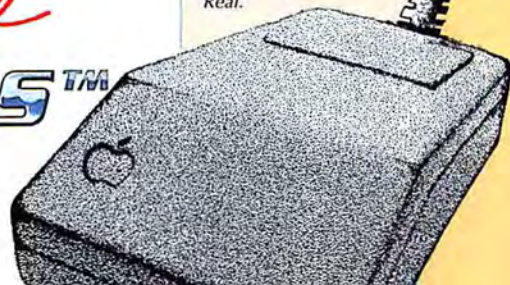
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Prices are good through December 1989

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	Reg. Price	Sale Price
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CMS Enhancements 20 32ms	\$549.	<b>\$429.</b>
Cutting Edge 20 65ms	\$529.	<b>\$419.</b>
MacBEST 20 32ms	\$499.	<b>\$429.</b>
<b>30 Megabyte</b>		
Caché Systems 30 28ms	\$559.	<b>\$489.</b>
CMS Enhancements 30 32ms	\$589.	<b>\$489.</b>
Cutting Edge 32 30ms	\$579.	<b>\$484.</b>
MacBEST 30 28ms	\$549.	<b>\$499.</b>



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"Caché Systems 150 megabyte tape unit provides the user with such features as file by file and mirror backups of your hard disk drive. Unit comes complete with cables and one tape cartridge." An unbelievable price of only \$799.00 this month!

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Cutting Edge 47 30ms	\$649.	<b>\$539.</b>
MacBEST 40 28ms	\$599.	<b>\$569.</b>
Quantum 40* 19ms	\$699.	<b>\$579.</b>
<b>60 Megabyte</b>		
Caché Systems 60 28ms	\$729.	<b>\$579.</b>
CMS Enhancements 60 40ms	\$749.	<b>\$649.</b>
Cutting Edge 60 28ms	\$699.	<b>\$599.</b>
MacBEST 60 28ms	\$729.	<b>\$649.</b>
<b>80 Megabyte</b>		
Caché Systems 80 28ms	\$849.	<b>\$679.</b>
CMS Enhancement 81 28ms	\$899.	<b>\$779.</b>
Cutting Edge 85 28ms	\$725.	<b>\$699.</b>
MacBEST 80 28ms	\$849.	<b>\$749.</b>
Quantum 80* 19ms	\$949.	<b>\$799.</b>
<b>100 Megabyte</b>		
MacBEST 105 25ms	\$989.	<b>\$939.</b>
Quantum 105* 19ms	\$1,099.	<b>\$899.</b>
<b>120-180 Megabyte</b>		
Caché Systems 150 16ms	\$1,499.	<b>\$1,299.</b>
Caché Systems 150/150 Tape 16ms	\$2,499.	<b>\$2,159.</b>

CMS Enhancements 170 18ms	\$1,799.	<b>\$1,549.</b>
MacBEST 180 18ms	\$1,749.	<b>\$1,659.</b>

<b>300-600 Megabyte</b>		
Imprimis - CDC 300 16ms	\$2,499.	<b>\$2,099.</b>
Imprimis - CDC 300 Wren Runner 10.7ms	\$2,999.	<b>\$2,649.</b>
Imprimis - CDC 600 16ms	\$3,399.	<b>\$2,799.</b>
CMS Enhancements PD 300 16ms	\$2,349.	<b>\$2,195.</b>
CMS Enhancements PD 600 16ms	\$3,699.	<b>\$3,499.</b>
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\*Quantum Drives Have a Two Year Warranty!

## SE, SE30 & IICx, IICi Internals

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Cutting Edge 32 30ms	\$479.	<b>\$395.</b>
MacBEST 30 28ms	\$449.	<b>\$399.</b>
<b>40 Megabyte</b>		
Caché Systems 45 28ms	\$499.	<b>\$449.</b>
CMS Enhancements Pro 45 32ms	\$569.	<b>\$469.</b>
Cutting Edge 47 30ms	\$529.	<b>\$444.</b>
MacBEST 45 28ms	\$499.	<b>\$465.</b>
Quantum 40* 19ms	\$599.	<b>\$479.</b>
<b>80 Megabyte</b>		
Quantum 80* 19ms	\$889.	<b>\$699.</b>
<b>100-210 Megabyte</b>		
MacBEST 105 25ms	\$949.	<b>\$859.</b>
Quantum 105* 19ms	\$999.	<b>\$799.</b>

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### MacBEST Hard Disk Drives by Osicom

MacLand carries the full line of quality drives made by Osicom. All drives are complete with cables, software and a manufacturers one year warranty.

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Caché Systems 45 28ms	\$499.	<b>\$449.</b>
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<b>60 Megabyte</b>		
Caché Systems 60 28ms	\$639.	<b>\$499.</b>
CMS Enhancements Pro 60 40ms	\$649.	<b>\$579.</b>
Cutting Edge 60 28ms	\$679.	<b>\$489.</b>
MacBEST 60 28ms	\$629.	<b>\$549.</b>
<b>80 Megabyte</b>		
Caché Systems 80 28ms	\$729.	<b>\$575.</b>
CMS Enhancements Pro 80 28ms	\$749.	<b>\$669.</b>
Cutting Edge 80 28ms	\$689.	<b>\$599.</b>
MacBEST 80 28ms	\$749.	<b>\$679.</b>
Quantum 80* 19ms	\$889.	<b>\$699.</b>
<b>100 Megabyte</b>		
MacBEST 105 25ms	\$949.	<b>\$859.</b>
Quantum 105* 19ms	\$999.	<b>\$799.</b>
<b>120-210 Megabyte</b>		
Caché Systems 150 16ms	\$1,429.	<b>\$1,199.</b>
CMS Enhancements PI 170 16ms	\$1,699.	<b>\$1,499.</b>
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MacBEST 300 17ms	\$1,999.	<b>\$1,899.</b>
Imprimis - CDC 300 16ms	\$2,349.	<b>\$1,999.</b>
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No. 6

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## Removables Tape Back-Ups

	Reg. Price	Sale Price
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Cutting Edge 44 25ms . . . . .	\$1,149.	<b>\$939.</b>

<b>60-150 Megabyte Tape Back-Ups</b>		
Caché 150 . . . . .	\$1,199.	<b>\$799.</b>
CMS Enhancements 60 . . . . .	\$749.	<b>\$649.</b>
CMS Enhancements 150 . . . . .	\$999.	<b>\$849.</b>
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RasterOps 19" 108 Color . . . . .	\$4,299.	<b>\$4,099.</b>
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RasterOps 19" 108 SE30 Color . . .	\$4,495.	<b>\$4,379.</b>
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RasterOps 264 Color Board . . . .	\$999.	<b>\$699.</b>
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& Card . . . . .	\$895.	<b>\$589.</b>
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MaraThon 020 MSE 1 . . . . .	\$469.	<b>\$412.</b>
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MaraThon 020 MSE 3 (Math Chip) .	\$649.	<b>\$589.</b>

MaraThon 020 MSE 4 (1 Meg/Math Chip) . . . . .	\$999.	<b>\$884.</b>
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## Memory Upgrades

MacSnap 524 . . . . .	\$225.	<b>\$189.</b>
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Microtek MSF 400GS . . . . .	\$3,299.	<b>\$2,959.</b>
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**MacUser**  
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# MacUser<sup>®</sup> MARKETPLACE

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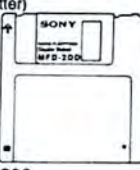
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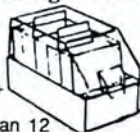
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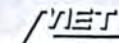
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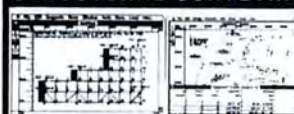
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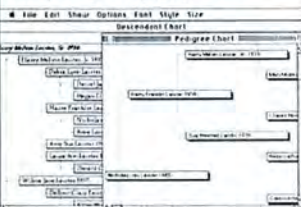
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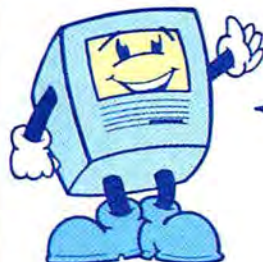
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1. Please indicate which of the following computers you currently use in your company or organization: (check all that apply)

- ☐ a) Mac Plus ☐ d) IBM PC  
☐ b) Mac SE ☐ e) Other  
☐ c) Mac II

2. For how many micro computers do you buy products?

- ☐ f) 1-4  
☐ g) 5-49  
☐ h) 50+

3. Your primary job function is: (check one)

- ☐ i) Administrative/General Management  
☐ j) MIS/DP, Communications Systems, Programming  
☐ k) Engineering/R&D  
☐ l) Finance/Accounting  
☐ m) Marketing/Sales  
☐ n) Computer Dealer/VAR

4. For which of the following products are you involved in selecting brands/models to be bought by your company or organization? (Check all that apply)

- SOFTWARE ☐ o) Accounting ☐ w) Mainframe  
☐ p) Spreadsheets/Financial Planners ☐ x) Mini  
☐ q) Project Managers ☐ y) PC  
☐ r) Word Processors ☐ z) Printers/Plotters  
☐ s) Database Managers ☐ 1) Monitors  
☐ t) Graphics ☐ 2) Disk/Tape Back-up  
☐ u) CAD/CAM ☐ 3) Add-in Boards  
☐ v) Communications ☐ 4) Communications

5. Are you involved in the purchasing of microcomputer equipment at your company?

- ☐ 5) Yes ☐ 6) No

6. If so, what function do you serve in the buying process?

- ☐ 7) Evaluations/Specification  
☐ 8) Recommendation ☐ 9) Buyer/Purchaser

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☐ 8) Recommendation ☐ 9) Buyer/Purchaser

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# MacUser

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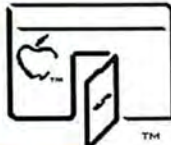
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# Bobker's Dozen

## GOOD THINGS AND SMALL PACKAGES

Do you have a good thing in a small package? If you'd like it to be considered for review here, send it to the address below. The products that you read about here don't just magically appear on my desk. A rich source of new products is trade shows. For me, trade shows are places where I can find out what people are publishing and what they plan to publish. Everyone who wants to keep up with the Mac marketplace should try to get to one or two trade shows a year. More than two shows a year causes the experience to quickly pale, though.

### WRITE TO

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Do you have a good thing in a small package? If you'd like to have it considered for review here, send it to the address above.

By STEVEN BOBKER

## 1 Shortcut



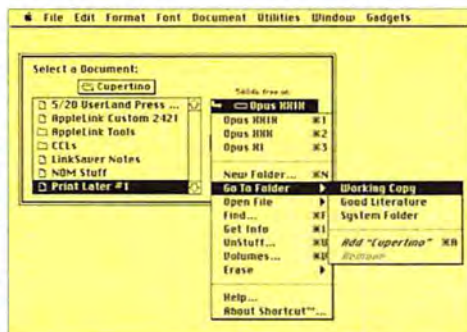
Shortcut is by Raymond Lau, the justly famed creator of StuffIt! (now distributed by Aladdin). Shortcut shows the same brilliance and has an even simpler interface. It's the best new product I've seen in the last month.

Shortcut is an INIT that greatly increases the functionality of all Save and Open dialog boxes. An extended click on the dialog boxes' disk icon causes Shortcut's menu to pop up. The menu includes options for creating new folders, going directly to any folder, opening any file, unstuffing any StuffIt! archive (naturally), and more. Most commands can hold lists of common destinations, making the journeys much quicker.

Shortcut's Help feature, which employs an Aladdin-proprietary technology, is among the very best. There's also a complete manual for those who prefer hard copy.

Performance is nearly flawless. There's a slight delay before the Shortcut menu drops, but that's perfectly acceptable. Overall, Shortcut is an awesome product and bodes well for Aladdin.

Version 1.0.1. Requires System 6.0 or later. \$79.95. Aladdin, 217 E. 86th St., Suite 153, New York, NY 10028; (212) 410-3080.



## 2 Inspiration



Inspiration bills itself as a thought processor. It combines a graphic outliner with text notes and some flow-

charting capability. If you like to think in a top-down, structured way, you'll find this program a valuable tool. The

program includes a wide range of shapes and graphics options and supports the eight basic QuickDraw colors. You can create charts by using a well-designed palette of shapes and connections. Menu options often serve to extend the palette primitives.

Inspiration performs better on-screen than it does in hard copy. I had some difficulties getting graphic trees to appear exactly where I wanted them on paper and in getting the notes and graphics together. The outlines printed fine, but there's nothing special about them — no special formatting or other enhancements that popular products such as More II and Acta have. As it is, files must be transferred to other applications to be prettied up.

Inspiration is a better-than-average structured-outlining tool. It's not a must-buy, but it is a good free-form thinking tool.

Version 2.0. Requires Mac Plus or later and System 4.2 or later. \$249. Ceres Software, P.O. Box 1629, Portland, OR 97207; (503) 245-9011.

## 3 Pocket WristMac



The name of the Pocket WristMac is only half right: There's no way to carry one on your wrist. But at just over 2 ounces and around 3 x 1 x .375 inches, it easily fits into a pocket.

The Pocket WristMac is a Seiko data watch with a custom cable and excellent Mac software. It holds up to 80 screens of 12 characters each. You can use the software to create daily, weekly, or scheduled alarms; short notes; or phone lists. You can then quickly and easily download them to the watch. (You can also enter data into the watch manually, but the process is cumbersome.) The transfer process is Mac-to-watch only, but an optional adapter (\$45) lets you import information from the watch.

It's easy to import data from existing lists and to get the data into the watch. Unfortunately, accessing the data could be easier, and the watch definitely needs a small light so that it can be read in dark places.

Version 1.2. Requires HyperCard and 1 megabyte. \$280. Microseeds Publishing, 7030-B W. Hillsborough Ave., Tampa, FL 33634; (813) 882-8635.





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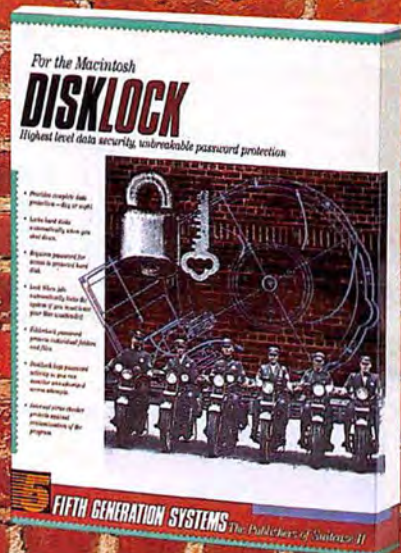
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## 4 StickyBusiness .....

**StickyBusiness** is the most versatile and complete label, card, tag, and envelope creator I've seen. It includes 273 templates for commercial card and label stickers and has a separate application (Template Maker) for creating new templates and editing existing ones. There are built-in graphics and text editors and basic color support.

This is not a simple program, but a pair of manuals helps considerably; after a bit of practice, you should be able to create everything you need. There's good mail-merge power, an absolute necessity in this sort of tool. Doing one-off jobs such as producing envelopes with StickyBusiness may be overkill (take a look at Kiwi Envelopes for that), but the absolute and total control over all graphic and text elements makes it the obvious choice for more-complex jobs.

The other — and often more difficult — half of the job is printing. StickyBusiness does an excellent job when printing to laser printers, although it has some problems printing from floppy-disk-based configurations.

**Version 1.0.7. Requires 512KE and System 4.2 or later. \$179.95. Williams and Macias, S. 3707 Godfrey Blvd., Spokane, WA 99204; (509) 458-6312.**

Kim

## 5 Kiwi Envelopes .....

**Kiwi Envelopes** is a simple and inexpensive envelope-creation DA. The interface is quite nice, and on-line help is neatly built in. There aren't as many features as in some more expensive packages, however, and there are some real limitations.

The fields for the mailing and return addresses can have as many lines as you want, although you can't scroll within them. There's also a message field that accepts a one-line message (although you can get around that by pasting in multiple-line text as a graphic). The text uses any available font, but styles are restricted to plain, bold, and italic.

The program's biggest drawback is that it supports only two sizes of envelopes (number 6 1/4 and number 10). It needs either more choices or a custom-size feature.

On the positive side is what amounts to one-click envelope printing, using an AutoPaste feature and bypassing a print dialog box. If you're on a budget but want printed envelopes, Kiwi Envelopes is a very good deal.

**Version 3.0. Requires 512KE and any envelope-friendly printer. \$49.95. Kiwi, 6548 Pardall Road, Santa Barbara, CA 93117-4842; (805) 685-4031.**

S. Claus  
North Pole

## 6 Scrapz .....



**Scrapz** is a better Scrapbook for those of you who are dissatisfied with Apple's own Scrapbook. In Scrapz you can group items in user-defined sets that have user-drawn icons. Items can be shown in their actual size or reduced to fit the resizable window. There's full color support, and text can be displayed word-wrapped, with fonts and styles (using System 6.0 or later). Horizontal and vertical scrolling let you examine large items. Scrapz reads Scrapbook, PICT, and text files.

The interface is elegant — the best I've seen on this type of utility. Performance is excellent. If Scrapz could print items, it would be the best of them all.

**Version 1.0. Requires 1 megabyte and System 4.1 or later. \$69 (plus \$12 postage and handling). Seagull Engineering, Box 909, S-220 09, Lund, Sweden.**

## 7 Calendar Creator .....

**Calendar Creator** is designed to merge user-created event lists in a wide variety of calendar formats. It does this reasonably well, although you must use a certain amount of forethought and care in creating your lists. If the number of features were the main criterion of excellence, this would be a hard program to beat. Unfortunately, it's how well the features work that really counts, and here Calendar Creator doesn't score as well. Only a limited number of layouts are provided, generally one for each time range. There's no hard-copy manual, just a HyperEngine-driven stack. That's not enough for this program. Keep an eye out for the next version.

**Version 1.0. Requires Mac Plus or later and System 4.2 or later. \$59.95. Power Up Software, 2929 Campus Drive, San Mateo, CA 94403; (415) 345-5900.**



## 8 Exposure .....

**Exposure** is this month's almost-great program; the concept is wonderful, the actual design and implementation anything but. Exposure is a screen-capture program combined with a reasonably full-featured graphics editor, which makes it perfect, in theory, for capturing and polishing Mac screen shots. It has nice touches, such as cursor-shaped stamps and the ability to exclude everything outside the active window or dialog box. However, the interface strays too far from Mac standards, and it isn't intuitive. The manual is extensive but too detailed. With debugging and a redesign, Exposure could be a five-mouse program, but this version is no better than average.

**Version 1.02 (version 1.0 reviewed). Requires System 4.1 or later and at least 1 megabyte. \$99.95. Preferred Publishers, 5100 Poplar Ave., Suite 617, Memphis, TN 38137; (901) 683-3383.**





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## 9 After Dark

**After Dark** is an exceptionally complete screen blanker or saver. It has modules for many effects — such as a moving or stationary field of stars that prompts the product's name; floating text messages; and imported images (such as a scanned corporate logo), lightning, slithering worms, and more. The on-screen antics aren't there just to protect your monitor (or to provide entertainment); **After Dark** can also add password protection to your Mac, so you can use it for privacy.



All the effects work in color, and you can add features. The manual has a programmer's section, and sample code is included on the disk. Cheaper, smaller, and more Mac-friendly products of this kind are available, but if you like the idea of changing the look of your screen saver, take a look at **After Dark**.

**Version 1.0. Requires 512KE or later. \$39.95. Berkeley Systems, 1700 Shattuck Ave., Berkeley, CA 94709; (415) 540-5535.**

## 12 Tiles

**Tiles** offers power users with large screens and lots of RAM a new way to organize their files. It's an application that lets you create iconlike "tiles" for applications, documents, and DAs. You can arrange, customize, and group the tiles as you like. Groupings — or "mosaics" — can be made up of documents from different applications and opened together, with a click (assuming you have sufficient RAM).

**Tiles** allows free-form arrangements and should appeal to power users and anyone who wants to open working documents and applications more quickly.

**Beta version 0.989. Requires Mac Plus and MultiFinder. Magic Software, 1602 Cascio Drive, Bellevue, NE 68005; (800) 342-6243 or (402) 291-0670.**



## 13 Disinfectant

**Disinfectant** is easily the best public-domain virus detector and repairer available. This proven performer has been around for a while. The author and his team react quickly to new viruses, as evidenced by the incredible speed with which this version (1.2) followed the discovery of the nFlu virus. Of the commercial products, only Virex has demonstrated this ability to react quickly.

**Disinfectant** is quick and reliable, never missing known viruses. It can find cases of partial infection that other products sometimes miss.

## 10 MacInteriors

**MacInteriors** is a very nice 3-D design program primarily for interior planners and designers. It comes with a library of basic furniture shapes (mostly office furniture), and you can easily create your own library items.

It's easy to use the tools provided to create attractive layouts that can then be viewed from a variety of directions or in perspective. **MacInteriors** provides scaling and automatic dimensioning. Accuracy is excellent, and you can print your results on either a printer or a plotter (using Microspot's MacPlot, which is not included).

**MacInteriors'** only major drawback is the time it takes to redraw even moderately complex screens, and **MacInteriors** wants to redraw the screen every time you make a slight change. Performance is almost unacceptably slow, even on an SE/30. Color, which would be nice in a program such as this, is not supported. Since color would only slow things down even more, maybe that's just as well.

**Version 1.0. Requires System 4.2 or later and 1 megabyte. \$295. Microspot, 21060 Homestead Road, Cupertino, CA 95014; (800) 272-5533 or (408) 739-0326.**

## 11 AutoSave II

Next to learning to back up regularly, teaching yourself to save regularly is the most important computer skill. **AutoSave II** can do much of that work for you by automatically sending your computer a Command-S every specified number of minutes. Most programs use that key combination to trigger a save. If you have a program that doesn't have a key combination for its Save command or uses a nonstandard combination, adding or changing it is usually both simple and possible. If necessary, Magic Software will do the job for \$5 and a blank disk. Any key combination can be set, although this version can launch only MacroMaker macros, not Tempo II macros or QuickKeys sequences.

The brief manual is good but could be more detailed — for example, it doesn't explain that you should set **AutoSave II** not to work in telecommunications programs since networks may use Command-S as a signal to start transmitting data. Earlier versions were somewhat unstable, but version 1.01 is a well-behaved gem and is now a regular in my System Folder.

**Version 1.01. Requires System 4.1 or later. \$49.95. Magic Software, 1602 Cascio Drive, Bellevue, NE 68005; (800) 342-6243 or (402) 291-0670.**

The extensive built-in documentation can be printed and is a must-read for all users, not because the program needs explanation but because it's an excellent reference on viruses. It even includes a list of all other public-domain and shareware virus fighters. All that **Disinfectant** lacks is a prevention module (such as that found in SAM or in the somewhat less thorough public-domain preventers).

Please get your copy from a BBS, user group, or national service, as the author can't be expected to bear the costs of reproducing or mailing this free program.

**Version 1.2. Requires 512K. Free. John Norstad. ComputerServe: 76666,573; AppleLink A0173.**





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JOHN C.

**DVORAK**

**A**



As we go into the next decade, it looks like a Steve Jobs prediction may be coming true: The Mac is nearing the end of its life cycle. The theory goes that an architecture lasts for about seven or eight years, during which the machine penetrates all the markets it can. It excites everyone who is excitable, fulfills its promise, and then drops dead.

The Mac scene has certainly taken a turn for the abysmal. Gone are the wacky enthusiasts who once dominated the

## Abyss-ness Plan

world of the Mac, screaming and yelling about how great the Mac was. They've been replaced by so-called micromanagers and corporate bean counters, who form one dull group whose earmark is negative enthusiasm. They buy the Mac "because it offers a viable solution to the desktop-publishing needs of the corporation and serves well as a general-purpose data-entry terminal if configured properly." Yuck! If you even mention the old "insanely great" comment to these types, they screw up their faces and look at you like you are nuts. Don't bother talking about the 1984 Mac commercial with the seated drones and the muscle-bound, sledgehammer-chucking, sweaty woman running down the aisle. The commercial makes no sense to the new Mac user.

Many observers (not just I) think that that particular commercial wouldn't work anymore because the tables have turned. Forget about the other classic Mac commercial, in which lemminglike business geeks are slowly walking in lockstep over a cliff. Those lemmings are now the new Mac users. I guess appealing to this group of dullards is how you make the big dough, and Apple has proved that it can appeal to them as well as IBM can.

I don't know. Although I was once the most vocal critic of the Mac and its dingbat users, I'm getting a bad feeling about their exodus from the scene. We know that their leader, Steverino what's-his-name, wandered off into the sunset to partner up with Ross Perot and his clique. The result of his departure looks like a fiasco all-around. Nobody is buying the pricey NeXT machine, and as good as the machine is (theoretically), I have no hopes for its success. Steve won't be able to prove anything except that he can get money from Canon, which he did to the tune of \$100,000,000 in exchange for one-sixth of the company. Now, if he follows Zero Mostel's pattern in *The Producers*, he can keep selling one-sixth of the company to a few hundred suckers and he'll do just fine. Whatever the case, he's permanently out of the Mac picture. Besides that, he seems to be getting square in his old age. (I hear he's collecting vintage Skitch Henderson albums.)

ILLUSTRATION: ROBERT ZIMMERMAN

All this aside, something still must be done to remove the melancholy cloud that is settling over the world of the Mac. John Sculley has peaked as an idea man with his silly Knowledge Navigator. If he were on the ball, he'd realize that the Mac world needs a true laptop Mac right away and not some heavy lunch-box portable or overweight clunker. Nobody can afford to wait for the Knowledge Navigator dream machine. PC users wander the world with their four-pound notebook computers while Mac users have nothing remotely comparable. Apparently Sculley decided some years back that laptops were a dumb idea.

Curiously, the powers at IBM felt much the same way when Big Blue reluctantly entered the market with the horrible IBM PC Convertible, a dog of a machine. Maybe all the big shots in big companies feel that laptops are unmanly or something. "A real executive wouldn't be caught dead using a laptop on an airplane. It's woman's work!" Personally, I don't get it. Laptop computers are a great idea.

Well, I digress. Maybe I'm just proving the point. The focus is lost. It's lost in this column because it's lost in the Mac community now that all the true enthusiasts have drifted off to run BBSs for stamp collectors or have become bone-sucking druids. It's depressing.

I remember some years back when the CP/M user community began to fade out. Many of the most enthusiastic micro-computer fiends couldn't bear to switch to MS-DOS or the Mac or anything else. But the stagnation somehow panicked them as if they were jackrabbits in a frozen stare between the headlights of an oncoming 18-wheeler. Wham! Rabbit stew. A few of the old, wounded CP/Mers still hang on and grump about progress and about how everything new is nonsense. Many have taken up spitting through their teeth to emphasize their disgust. I've seen the same wistfulness occur in the old world of the North Star computer and in the world of the UCSD-p system, with its half-baked devotees. When it's clear that users have invested time and money for nothing but a dead end, then they go into a funk. Some never come out of it.

It seems to me that the Mac world is showing signs of this phenomenon. HyperCard seems to be the last hope of the machine, but it sure hasn't set the world on fire, has it? Now we have the hopeless multimedia nonsense. People are starting to see those headlights coming toward them.

There's only one thing that will keep Apple from sliding into an abyss. The company has to make some bold moves. It needs young blood — new kinds of users. The company should realize that it can handle popularity on a mass scale. Heck, Sculley used to make a living selling sugared water to the masses. Apple must bring out a powerful Mac costing less than \$1,000 just to get the low-end enthusiasts into its camp. And just to show the world its proud roots, Apple should make a three-chip VLSI version of the Apple II and sell it for \$199. It's already overdue, and the company is crazy not to assert itself with such a strategy. If something like this doesn't happen soon, I'm afraid we'll all be spitting through our teeth.



BY JOHN C. DVORAK



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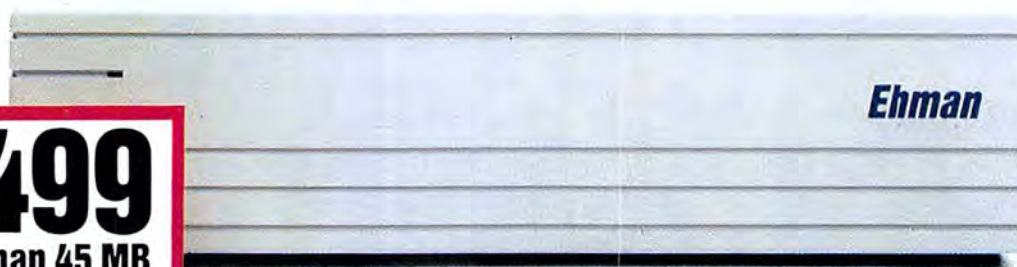


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Ehman 45 MB

According to a recent article in *MacWorld Magazine*, "There is very little to distinguish one hard drive from another, other than speed, software, and price." We agree.

Only a very few milliseconds of access speed separate the Jasmine and the Ehman hard disk drives, and both include utility software programs free. Both come with two year

warranties and a 30-day money back guarantee. And both companies

enjoy a reputation for manufacturing high-quality products.

That brings us to price.

As you can see, the Ehman 45 MB hard drive is \$200 less than the Jasmine 40 MB.

That's a difference users may not notice, but buyers certainly will. Ehman's low

Rocky Mountain overhead always means lower prices.

With all Ehman products, you get a 30-day money back guarantee, a lengthy warranty, and our optional 24-hour

express service replacement service policy.

The Ehman drive is a better buy. But don't take our word for it. *MacWorld Magazine* called the Ehman drive "a real bargain." Call us today and see the difference for yourself.

Visa, MasterCard, American Express welcome.

## Hard Drive Prices

Size (MB)	Internal	External
20	\$329	\$399
30+	\$379	\$449
45	\$449	\$499
60+	\$499*	\$579
80+	\$579*	\$649
105	\$799	\$899
135	\$899	\$999
180	\$1,099	\$1,199
45 Removable		\$799

## Ehman

**1-800-257-1666**

Please circle 79 on reader service card.

\*Good only on Macintosh II models. SE drives also available. Utility software not available on 20 MB. All product names mentioned are trademarks of their respective holders. Prices subject to change without notice and may not reflect limited-time pricing. 3% Surcharge on American Express.





# If Your Hard Drive Is Too Limiting



**\$699**  
Jasmine 40 MB

## Consider One That Has No Limits.



**\$799**  
Ehman 45 MB Removable

With conventional hard disk drives there is a basic problem: When you run out of storage, you run out of storage. Period. To get more you'll have to buy another hard drive.

Unless you consider the Ehman removable alternative.

At just \$799, our 45MB Removable Hard Disk Drive is only \$100 more than the price of a Jasmine 40MB hard drive. But, the Ehman removable gives you two, three, ten, or twenty times more capacity just by adding \$99 cartridges. The sky is the limit, but the price is down to earth.

The 45MB is based on award winning SyQuest technology, with 25 millisecond access speed and a 30,000 hour reliability rating. You're buying the best technology available at the best price available.

As with all Ehman products you get a 30-day money back guarantee, a lengthy warranty, and our optional 24-hour express service replacement policy.

The Ehman 45MB Removable Hard Disk Drive is a better way to get the mass storage and computing capacity you've been needing. So why be limited by conventional hard drives, when you can have Ehman's unlimited capacity for just a few dollars more.

**Ehman**  
**1-800-257-1666**





# A Big Screen Monitor Now Makes Big Sense.



Up to now most Macintosh users considered a big screen monitor a luxury purchase. Something desirable, but a purchase which could be put off until prices came down.

Surprise! They just did.

Introducing the Ehman 19" Two-Page Monochrome Display System, the first affordable big screen monitor. At just \$899, including card, cable, Stepping Out II software, and a tilt and swivel base, the Ehman monitor means finally doing away with scrolling, squinting and scrunching. The Ehman monitor matches all the major

features of other big screen monitors costing twice as much, including a high resolution of 76 DPI, and a flicker-free refresh rate of 70 herz.

As with all Ehman products, you get a 30-day money back guarantee, a minimum one-year warranty, and our optional 24-hour express service replacement policy. We've even thrown in a \$25 dealer installation coupon for quick and easy set-up.

It's the big-screen monitor you've been hoping for. So stop waiting for prices to come down. At Ehman they already have.

## Ehman

**1-800-257-1666**

Please circle 80 on reader service card.

